Afroasiatic Linguistics

Number Switch:
A Singular Feature-change Rule in Modern Hebrew

by

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Certain quantified nouns and numerals in Modern Spoken Hebrew can be
singular in form while plural syntactically and semantically. We
formulate two generative singularisation rules: NUMBER SWITCH, acting
chiefly on time units and numerals, refers both to their phonological
shape and to the absence of structurally adjacent matter; it is
obligatory if the modifying Numeral Phrase ends in a plural suffix —
a syntactic dissimilation — and optional if this phrase is [-DIGITAL],
a feature crucial to two further marked morphological processes, ordinal
and construct-numeral formation. SUPER NUMBER SWITCH acts on amount
and group terms, but after any numeral or pro-numeral. Both rules refer
crucially to a noun/numeral/quantifier distinction.

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1. INTRODUCTION

Modern Hebrew exhibits a pair of transformational rules that reverse the [+PLURAL] feature on some nouns in circumstances that involve certain numerals and a subset of quantifiers in general. We aim to formulate these rules, Number Switch and Super Number Switch, within the framework of the Extended Standard Theory of generative grammar. This will involve a re-appraisal of aspects of the syntactic-semantic theory of numerals devised by Hurford (1975); the feature [DIGITAL] and the distinction between Numeral, Quantifier and Noun that we propose also have implications for Hebrew Ordinal and Genitive structures. More generally, we hope to shed light on the shape of the Noun Phrase; and shall give consideration to such theoretical constructs as transformational structural indices with bracketing that dominates no variables, and dissimilatory feature-change in syntax.

2. PLURALITY

2.1. Number Concord

Our argument is predicated on a rudimentary understanding of Hebrew number concord.[1] It is the subject NP's number that is copied onto the agreeing lexical nodes, not that of its constituent nouns; thus (1) is ungrammatical:

(1)   *Yoram ve shraga shotef ve menagev et ha kelim.

     'Yoram and Shraga is washing and is drying the dishes'

The same holds for concord between head NP and Modifier. Furthermore, the features on NP can be predicted from, and are dependent on, those of the lexical constituents, as argued in Dingwall (1969); hence the first and third person nouns take a first person verb in (2):

(2)   Ani ve hu hisgarnu et acmenu.

     'I and he gave ourselves up'

Plurality is best regarded, at any but the latest stage in derivation, as the positive value of a feature ⌊PLURAL⌋ rather than a segmental plural morpheme whose existence contrasts with

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[1] Rules for Predicate and Modifier Concord have been proposed by Berman (1974), but the present account plays up certain crucial aspects that were left to the reader's imagination. See also Harris (1951, appendix to 17.33) for an axiomatised account of Hebrew inflection.

its non-existence, for reasons such as the following: (a) to capture the notion that a plural
NP is the product of singular nouns by creating new morphological matter in mid-derivation
would run counter to any principle that T-rules are meaning-preserving; better to capture this
by a distinct device such as feature-change on the NP.   (b) Hebrew verbs have specialised in-
flections for person-number-gender combinations, as do many nouns for number + gender, and it
would offend the spirit of the phonology to apply a plethora of "spelling rules" to a morpheme
of plurality.[2]

So instances of the feature [+PLURAL] will be segmentalised, after concord-spread, as [im],
[ei], [ot], [nu] int. al., according to the categorical, lexical, and feature context.

2.2. Zero Plurals in the Base

Before launching our discussion of zero plurality as a product of transformation, we must
allow for some instances of zero realisation of [+PLURAL] in the base.   A handful of nouns
(and determiners) display only singular form in the plural — as in (3) — while another
handful exist only in "portmanteau" form and in the plural alone, as in (4):

(3) a.   *Ma kara la avokado ha* $\begin{Bmatrix} ze \\ ele \end{Bmatrix}$ *she* $\begin{Bmatrix} haya \\ hayu \end{Bmatrix}$ *ba sak?*[3]

'What happened to the avocado $\begin{Bmatrix} \text{this} \\ \text{these} \end{Bmatrix}$ that $\begin{Bmatrix} \text{was} \\ \text{were} \end{Bmatrix}$ in the bag?'

b.   *Raxshu xamisha* $\begin{Bmatrix} kenguru \\ {}^*kenguruim \end{Bmatrix}$.

'They've acquired five $\begin{Bmatrix} \text{kangaroo} \\ {}^*\text{kangaroos} \end{Bmatrix}$,

(4)   *Ma kara le shloshet ha xevre ha ele?*

'What happened to three the people the these (= 'these three people')?'

Such forms are best generated by adding to the segmentalising "spelling rule" a subrule
[+PLURAL] → ϕ/*avokado, kenguru, xevre*..., rather than by switching their morphological status
from + to [-PLURAL][4] and letting the regular lexicalisation rule for the feature [-PLURAL] run
its course[5]; for these zero forms are context-free realisations, given the particular noun,
just like any other realisation of [+PLURAL], and indeed just like the zero realisation of
[+FEMININE] which deserves to be captured by the segmentalising "spelling rules" in view of
its being so very frequent a realisation of [+FEMININE] (for nouns like *em* 'mother', *kos*
'glass', *cipor* 'bird').

Other instances of zero plurality, by contrast, would appear to arise by feature-change.   They
are the theme of this study.

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[2]This view of inflection is due to Postal (1969).

[3]For some speakers, *avokado* is exclusively singular.

[4]For such a feature-change rule (from Accusative to Genitive), see Dingwall (1969).

[5]*Xevre* 'people' will bear the inherent feature [+COUNT] — unlike other exclusively plural N
  such as *mayim* 'water', *mishkafayim* 'glasses', which do not permit *shnei{*mayim,mishkafayim*}
  'two' {waters,glasses}' — plus an exception feature blocking [-PLURAL] altogether.

3. NUMBER SWITCH

3.1. Singularisation of Time Units

Let us commence by motivating a Number Switch T-rule (henceforth NS) in the specific context of Time Units. Consider (5-6):

(5) a.   *Eser* $\begin{Bmatrix} shanim \\ *shana \end{Bmatrix}$ *avru.*

     'Ten $\begin{Bmatrix} \text{years} \\ \text{*year} \end{Bmatrix}$ passed.'

  b.   *Shtem esre* $\begin{Bmatrix} shanim \\ shana \end{Bmatrix}$ *avru.*

     'Twelve $\begin{Bmatrix} \text{years} \\ \text{year} \end{Bmatrix}$ passed.'

  c.   **Shtem esre shana avra.*
    'Twelve year passed (sg.).'

(6)   *Lo modedim masa la koxavim be* $\begin{Bmatrix} shanim \\ *shana \end{Bmatrix}$.

    'One doesn't measure a trip to the stars in $\begin{Bmatrix} \text{years} \\ \text{*year} \end{Bmatrix}$.'

These sentences exemplify the fact that, when preceded by any numeral from 11 onwards but in no other context, *shana* 'year' can be found in the singular while its predicator is in the plural. The same holds for all time units whose plural suffix is otherwise *-im*, i.e. *rega* 'minute', *yom* 'day', *xodesh* 'month', *paam* 'time' (as in *ten times*) and not *shniya* 'second', *daka* 'minute', *shaa* 'hour', *shavua* 'week' (other nouns are given in 3.4.6.).[6]

It might be supposed that the base rules and lexical component generate all numerals with SINGULAR nouns — after all, plurality is here semantically redundant — and that, just in the case of numerals below 11, an obligatory pluralisation rule comes into effect. Such a rule has indeed been proposed for Biblical Welsh by Hurford (1975,193), as follows:

$$
\begin{array}{ccc}
 & \overset{\text{NP}}{\overbrace{\qquad\qquad}} & \\
X & & \text{Noun} \\
1 & & 2 \qquad \Rightarrow \quad 1 \quad 2\text{+Plural}
\end{array}
$$

OPTIONAL where the semantic representation of X is a number greater than 1
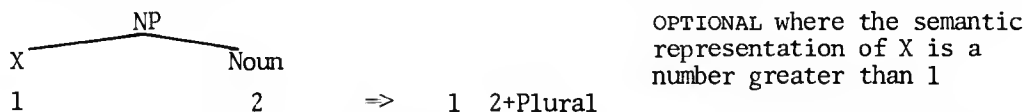
He says, "X is a variable ranging over categories, including NUMBER and PHRASE [see (18) below] and a category such as Quantifier, to which items such as [...] the Welsh words for 'how many', 'many' and 'few' presumably belong," and proceeds to a further T-rule, *0* Insertion, that introduces a preposition *o* just in cases where the numbered N is indeed plural.

We are inclined to dispute with Hurford on his own territory, for it is surely gauche to assign the feature [+PLURAL] in the base — as one would presumably do — only to withhold it when a noun happens to be in the company of a quantifier; furthermore, we are not apprised of the

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[6]Our raw data thus differ considerably from those of Klausner (1938), who claims that "in Modern Hebrew there is a tendency [...] to use the plural with all numerals [...] and for all objects, whatever they may be" (our translation), and those of Rosen (1962,122), who qualifies his "common units of time, measure etc. ordinarily appear in the singular if the numeral preceding them is higher than '10'" with the sole exception of *shavua* 'week'.

fate of modifiers and predicates of such QUANT – N constructions – do they display singular
or plural concord? Better then to have a Noun-Singularisation rule just in the context of
quantifiers.

The latter approach is a fortiori the more desirable for Modern Hebrew. For one thing, the
small set of nouns so far mentioned can be singular only with numerals above 10. In the course
of this section, we shall elaborate many other limitations on this rule. We begin by looking
at the fate of predicates and modifiers of the noun.

3.2. Constraints on the Target of Number Switch

Predicates, as seen in (5) above, appear in the plural alone despite the singularisation of
their subject noun. This is easily captured by ordering NS after the Subject-Predicate Con-
cord Spread outlined in 2.1. (We shall not pursue the exact ordering of NS, except to mention
that Concord Spread in Hebrew, which, as Berman (1974) demonstrates, must follow Passive and
any putative Nominalisation, must at the same time precede Relativisation — as in English,
rather than, say, as in German — because relative pronouns are often completely deleted in
Hebrew. So there is nothing to learn from this regarding a terminus post quem for NS).

NS does not apply to modifiers of the noun, hence (7), which illustrates a singular adjective
and prenominal determiner respectively:

> (7) a. *Axaʀei eʃʀim ʃhana ʃoeʀet duka ha mahapexa.*
>
>   'After twenty year stormy the revolution was put down.'
>
>   b. *Ma aʃu bemeʃhex ota eʃʀim ʃhana?*
>
>   'What did they do during that twenty year?'

Instead Hebrew provides (8):

> (8) a. *Otan eʃʀim ʃhana.*   'those twenty year'
>
>   b. *Eʃʀim ʃhana ʃoaʀot*   'twenty year stormy (plural suffix)'

Even more natural in fact are examples like (9), with both the time unit and its modifier in
the plural, despite the decided unacceptability of *eʃʀim ʃhanim* 'twenty years' by itself:

> (9)   *Axaʀei eʃʀim ʃhanim ʃoaʀot duka ha meʀed.*
>
>   'After twenty years stormy the revolt was put down'

But this detail we shall endeavour to explain in 3.3.

Now the plurality of the modifier does not follow naturally from the inevitable plurality of
predicates in deep strings such as

> *eʃʀim ʃhana* ₛ[*eʃʀim ʃhana hen ʃoaʀot*]
>
> 'twenty year ₛ[twenty year are stormy (plural suffix)]'

In the first place, not all determiners occur predicatively; second, there are compelling
grounds for generating all adjectives attributively in the base (see Glinert (1974) who refers
to Bolinger and others) as well as by Relative Clause Reduction. So our NS rule must be
specified as operating only on the head N of a NP.

3.3. The Wider Context of Number Switch: $\underset{\overline{N}}{=}$ [N]

When the head N is definite, aversion is usually felt for the singularised form. This, and the obstacles posed to the operation of NS by genitive modifiers and (marginally) by adjectives, can be understood within a unified framework: we shall argue that the structure of the NP as a whole has a say in whether NS occurs at all.

Consider first (10):

(10) a. ʾeśrim ha shana she ben kum ha medina ve ha milxama

'twenty the year that were between the birth of the state and the war'

b. ʾeśrim ha shana ha axaronot

'twenty the year the last (= 'the last twenty years')'

Although eśrim shanim 'twenty years' is ordinarily ill-formed, the non-singularised form of the noun is much preferred in a [+DEF] context like (10).

Observe first that, as is clear from (10), definiteness (of common NP) involves prefixing the article ha to the head N and to post-nominal adjectives and determiners. There is in principle more than one way of accounting for this. In line with the arguments of Hayon (1973,62) for deriving definite articles from a feature [+DEF] generated on NP nodes in general, we might make the NS rule sensitive to the definiteness of the whole NP. Alternatively, the rule might sense the intrusion of the segmentalised article ha between numeral and noun, particularly as we have already opted to order NS following the spread of concord features — in which one might include the spread of [DEF] from the NP as a prelude to its segmentalisation.

But let us offer a slight variation on this proposal, so as to capture a second limitation on NS. Consider (11-12):

(11) a. leaxar $\begin{Bmatrix} shnat \\ shnot \end{Bmatrix}$ milxama

'after $\begin{Bmatrix} \text{a year-of} \\ \text{years-of} \end{Bmatrix}$ war'

b. leaxar eśrim $\begin{Bmatrix} \text{*}shnat \\ shnot \end{Bmatrix}$ milxama

'after twenty $\begin{Bmatrix} \text{*year-of} \\ \text{years-of} \end{Bmatrix}$ war'

(12) a. $\begin{Bmatrix} yom \\ yemei \end{Bmatrix}$ sherut be cahal

' $\begin{Bmatrix} \text{a day-of} \\ \text{days-of} \end{Bmatrix}$ service in the army'

b. eśrim $\begin{Bmatrix} \text{*}yom \\ yemei \end{Bmatrix}$ sherut be cahal

'twenty $\begin{Bmatrix} \text{*day-of} \\ \text{days-of} \end{Bmatrix}$ service in the army'

This exemplifies the "constructive" construction, which is not unlike a German or Latin genitive except that the head must precede the modifier, is limited in its scale to an

unmodified N, and is sole bearer of the (occasional) distinctive constructive suffix (which we have glossed as '-of').[7] Now when the numbered nouns we are concerned with are "constructs" in a constructive, they have to remain plural in form, hence the (b) examples in (11-12).

Certain explanations can be ruled out. NS could not be rendered sensitive to the special phonological shape of the "plural construct" of the nouns concerned (/shanot/ 'years-of', /yamei/ 'days-of' vs. /shanim/, /yamim/) by being limited to chopping off just /-im/ plural endings — for, at the same time as the spelling rules produce construct endings, they will also be producing allomorphic stem-forms for the plural of a noun like /yom/ 'day', namely /yam/, as in *yamim* 'days' and *yemei* 'days-of'.[8] A number switch at this stage would convert *esrim yamim* 'twenty days' into **esrim yam* instead of *esrim yom* 'twenty day'.

This is, in fact, an appropriate moment to suggest that the operation of NS just on those time units whose plural is in *-im* cannot be captured by applying the rule to the output of the late lexical look-up, for even before the creation of *-im* endings a lexical rule will have converted the formative *yom*, +PLURAL into /yam/, +PLURAL. NS at this stage will, as stated, yield **esrim yam*. So this aspect of the NS rule is best handled by applying it within the main syntactic component just to those time units whose lexical entry has the rule feature amounting to [+PL → /im#/], changing [PLURAL] from plus to minus. It is in fact curious that a rule aimed against a certain (lexical) situation should apply before the situation has even arisen. It is worth considering whether the grammar should be equipped to deal with a hypothetical situation in which the choice of the plural suffix *-im* or *-ot* would depend on the phonological nature of the noun (i.e. would not be marked by a rule feature in the lexical entry) and where the NS rule would nevertheless act to yield *esrim yom* rather than **esrim yam*.

Turning again to constructives, it is clearly to some SYNTACTIC (rather than phonological) aspect of these that NS is sensitive. And, of the many potential syntactic accounts of constructives, we shall espouse that which can shed light on the limitation on [+DEF] nouns outlined above. Consider (13):

(13) a. **Ahavti et ha yemei* $\left\{ \begin{array}{l} \textit{kayic} \\ \textit{ha kayic} \end{array} \right\}$.

'I liked acc.marker the days-of $\left\{ \begin{array}{l} \text{summer} \\ \text{the summer} \end{array} \right\}$ ' ,

   b. *Ahavti et yemei ha kayic.*

'I liked acc.marker days-of the summer'

The semantic definiteness of the object NP as a whole is expressed by adding the article *ha* to the final construent of the constructive phrase, a fact that can be represented if we regard constructives as a sort of recursive $_{NP}$[N NP] : let the feature [DEF] accrue not to an N node, nor to the overall NP node of the sort that dominates the constructive phrase as a whole — or else we would create (13a) — but rather to a putative intermediate node, to be called N̄. From here it will be segmentalised by something like Chomsky-adjunction (after being spread to any adjectives or determiners sistering NP at any level within the whole nominal structure).

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[7]For a more general account of Constructives, see Reif (1968,4.1-4.2.), who dubs the N and NP components of Constructives "construct" and "construent" respectively. Berman (1973,105) more accurately writes in terms of NN [N NP], the label expressing the special syntactic status of the phrase as a whole.

[8]This is a morphological alternation, distinct from such phonologically conditioned alternation as that between [yam] and [yem] in the pair [yamim:yemei].

A semantic rule will meanwhile interpret all N within the overall constructive as definite.[9]

Thus, denoting decreasing syntactic scale by decreasing bar notation in the manner of Chomsky (1968), we propose the following rewrite rules for the noun phrase:[10]

(14) $\stackrel{\equiv}{N}$ → (DET) (QUANT) $\bar{N}$ (ADJ P)

$\bar{\bar{N}}$ → $\left\{ \begin{array}{l} N\ \stackrel{\equiv}{\equiv}{N} \\ \bar{N} \end{array} \right\}$

$\bar{N}$ → N

According to these rules, the overall nominal node $\stackrel{\equiv}{N}$ can be expanded into a bracked string such as

$\underset{N}{\equiv}$[eze esrim $\underset{N}{\bar{\ }}$[[mefakdei] $\underset{N}{\equiv}$[[yexidot] $\underset{N}{\underset{\ }{\ }}$[$\underset{N}{\underset{\equiv}{\ }}$[$\underset{N}{\ }$[[shiryon]]]]]]]]

      some twenty   commanders-of units-of   armour

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[9]With the rider that the interpretation is not concerned with non-nominal constituent structures such as the PP in *gnevat ha bakbuk shel yayin* 'theft-of the bottle of wine'.

It may be argued that the interpretation of [+DEF] Constructives such as *xavrei ha sar* 'friends-of the minister (= the minister's friends)' is that both N are definite. Now we could reasonably generate [DEF] on the $\bar{\bar{N}}$ and apply projection rules, before moving [DEF] to the $\bar{N}$. Note though that, as Rosen (1966,131) first observed, [-DEF]constructives of the kind *xaver kneset* 'member-of parliament' are to be interpreted as referring to a definite parliament.

Our analysis derives a certain degree of support from the corresponding rule in Literary and Colloquial Arabic. With numerals above 10, a noun is obligatorily singularised both when modified by an adjective and when construct to a modifying NP, i.e. both phenomena can be put down to the rule's *non*-sensitivity to the NP context. Thus Tomiche (1964) cites Cairo Arabic:

(i) *tesaᶜtāšar yōm kamlīn*
     'nineteen day whole (pl.suffix)'

And, by contrast with Hebrew, (ii) would not be well-formed:

(ii) **tesaᶜtāšar ayām kamlīn*
     'nineteen days whole (pl.suffix)'

And in Literary Arabic, where the absolute and construct forms are distinct morphologically, (iii) is grammatical but not (iv):

(iii) *ᶜišrūna sanata ᶜamalin*
      'twenty year-of work'

(iv) **ᶜišrūna sinī ᶜamalin*
      'twenty years-of work'

[10]We shall not take issue with Hayon (1973), Reif (1968), Ornan (1964), and Berman (1973) about the need to derive construents from various underlying structures, such as Determiners, Relative S, and Subject and Object. Let us regard our rules as capturing at least a later stage in the derivation of nominal structures.

or, diagrammatically

And [+DEF] can accrue only to the node $\bar{\bar{N}}$, hence (15a) but not, for example, (15b):

(15) a. *esrim mefakdei yexidot ha shiryon*

   'twenty commanders-of units-of the armour'
   ('the twenty armoured unit commanders')

   b. **esrim mefakdei ha yexidot shiryon*

   'twenty commanders-of the units-of armour'

Having argued the usefulness of several layers of N structure, let us turn again to the Number Switch rule. We might have constrained it simply by referring to the syntactic context as follows: N as in $_{\bar{N}}[N\ \bar{\bar{N}}]$ fails the NS rule. But if, instead, the context in which the rule does apply is stated simply as $_{\bar{\bar{N}}}^{[N]}$ — i.e. a noun exhaustively dominated by $\bar{\bar{N}}$ — we could explain the constraint involving definite N as due to the segmentalisation of the feature [+DEF] within $\bar{N}$, creating a morpheme that is dominated by $\bar{N}$. Disregarding the fact that the features [PLURAL], [FEMININE] must be segmentalised AFTER our NS rule, which refers to features and not to morphemes, we now feel compelled to suggest that [DEF], insofar as it is spread only to modifiers and not to predicates and as its allomorphy (*ha* vs. ϕ) is geared to a syntactic feature [COMMON] and not to particular lexical items, is segmentalised by a quite separate rule, and at a sufficiently early stage to affect our NS rule. We have thus accounted for the ill-formedness of (10,11,12) within a unified framework.

Observe now that, by thus stating the rule for the context $_{\bar{N}}^{[N]}$ rather than for $_{\bar{\bar{N}}}^{[N]}$, we capture the operation of the rule in the environment of determiners and quantifiers themselves, i.e. example (8).

We are now also in a position to judge (8b,9), where singularisation was portrayed as reasonably acceptable in the context of an attributive adjective. Basing ourselves on independent evidence for deriving adjectives both attributively and predicatively in the base (Glinert (1974)), we shall associate the non-singularisation in (9) with a deep structure attributive AdjP, whose position in nominal structure is even more "integrated" than that of DET and QUANT — witness the order of elements in (16) below — and is in fact part of $\bar{N}$:

(16) a. *baaya ktana zu*

   'problem little this'   ('this little problem')

   b. *baxura shatenit axat*

   'girl auburn one'   ('one auburn girl')

The less natural singularisation of (8b) is to be associated with the more peripheral AdjP derived by Relative Reduction. We surmise that, although the peripheral AdjP is perfectly natural in such environments as *mishehu shateni* 'someone auburn'[11] and *baxura axat shatenit* 'girl one auburn', it involves a shade of meaning that may be less appropriate occasionally.

More generally speaking, it may turn out that rules like NS that refer to a bracketing that dominates no variables are not uncommon. Examples of this form are the derivation of English pronouns by features like [$_{NP}$ [___]] (see Stockwell et al. (1973,129) and, conversely, the phonological rule proposed by Hurford (1975,115) that changes French /sent/ to /sen/ (i.e. [sãt] > [sã]) "just when *cent* is not the sole constituent of a NUMBER, e.g. in *cent un* and *cent onze*."

3.4. The Quantifier Context

The next aspect of the context of NS to come under scrutiny is the quantifier itself. Only when the context has been covered will we ask which nouns apart from time units respond to NS altogether.

Observe first that non-numeral quantifiers[12] do not meet the rule:

(17) **Kama shana ata xai kan?*

'How many year do you live here ('have you been living here')?'

This follows from the fact, mentioned on in 3.1. that NS involves a numeral above 10, and nothing else.

Our attempted account of this situation will be in terms of a feature [DIGITAL] (in the sense of the ten digits of the human hands rather than the arithmetical 0-9). We hope thereby to throw light on the alternation of "absolute" and "construct" forms of Hebrew numerals, on the Ordinal construction, and on the structure of numerals, as well as dwelling at length on the relation between the categories Numeral and Noun, to which Hurford (1975) has addressed himself. En passant, we shall size up the situation in the light of the Number Theory of Hurford (ibid.) and others.

3.4.1. INTRODUCING THE FEATURE [DIGITAL]

Were the combinatory properties of Hebrew numerals anything to go by, we should have expected NS to apply from 10 onwards rather than from 11. For the tens (from *eser* '10' on) combine with numerals up to *tesha* '9' but not with *eser* '10' and so forth, i.e. 10 is a base in the Hebrew numeral system. Following Van Katwijk (1965) in his analysis of Dutch numerals, one may subcategorise for Hebrew thus: digits/10-19/tens/hundreds etc. Or, as in Hurford's (ibid.) general account, one might establish Hebrew rewrite rules along the lines of (18):

(18) a. NUMBER → $\left\{ \begin{array}{l} / \\ \text{PHRASE} \end{array} \right\}$ (NUMBER)

b. PHRASE → NUMBER M

c. M   → $\left\{ \begin{array}{l} ///////////// \\ \text{NUMBER M} \end{array} \right\}$

---

[11]See our forthcoming "How *od* — a Study of a Modern Hebrew Pseudo-Quantifier."

[12]This assumption that numerals are a subset of quantifiers will be revised in 4.1.

In other words, as in (c), 10 and its powers could be viewed as a category apart from the digits 1-9 generated recursively by (a). But this, as we have seen, does not motivate the Number Switch rule.

As an alternative, one might invoke the morphology of Hebrew numerals. Above 10, they become in some sense more complex: 11-19 are combinations of the digital names with a form for 10, and the same principle explains 21-29, 31-39 etc. To derive 20,30... we suffix to the digit names a sort of place-holder morpheme[13] expressing the rankshifting of the digit from the unit column to the tens[14], e.g. *shalosh* '3': *shloshim* '30'. However *mea* '100', *elef* '1000', *milyon* '10^6' — all of which trigger NS — are decidedly non-complex, unless we choose to take account of our disucssion next to (37) and in fn. 19 while ignoring that *eser/asara* '10' too lose an underlying 'one. So such an abstract morphological distinction fails us too.

The solution is to be found in another area of Hurford's analysis, given a possible modification. Hurford (ibid.,63), in an attempt to express the dependence of each of the English numerals from 2 to 12 on the existence of a lower simplex numeral, proposes ordered lexical rules that create, say, *ten* from the morpheme combination $_{\mathrm{NUMBER}}[/\ nine]$. In effect, by means of his lexical Extension Component, he generates *ten* both as a member of category M (the base numbers) and as a product of the recursive rule (a) mentioned on p. 10. In the latter case, one would say that between *one...twelve* and the topmost NUMBER node there are no nodes but NUMBER and /. This would characterise 1-12 by distinction from all the other English numerals.

Now the same analysis in terms of rules (a-c) would befit Hebrew, the $_{\mathrm{NUMBER}}[/\ ^{x]}$ lexical rules being available up to *eser* '10' in this case. And we could have NS apply just in cases where the numeral embraces no nodes except NUMBER and /. All higher additive, multiplicative, and exponential numerals, involving the nodes PHRASE and M as they do, would not trigger our rule.

We do, however, propose a modification. Hurford (ibid.,63) employs the recursive rule (a) in the production of *eleven*, *twelve*, as their complex derivation is no longer phonologically in evidence. French *onze...seize* come in for the same treatment. It is our suggestion that the immunity of Hebrew 2-10 to singularisation is not the kind of property that would be likely to extend, should 11 or 12 cover over their complex morphological traces in the course of time[15]; nor are the two other peculiarities of 2-10 (their construct form and ordinal derivatives, to be discussed in 3.4.5. and 3.4.4. respectively) any more likely to spread, as we shall see. 10 may be a very special "cut-off point," of psychological import. Let us accordingly add the feature [DIGITAL] — in the etymological sense of 1-10 — to the inventory of syntactic features; and, as is customary, let the minus value, for numerals above 10, be the unmarked one.[16]

Let us then provisionally have NS apply just when preceded by a [-DIGITAL] numeral. The coming subsections will see several revisions.

The [±DIGITAL] dichotomy is fairly appropriate also to the alternation between absolute and construct forms of numerals. From 2 to 10 such alternation is de rigueur, the construct form

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[13]This is similar to, though more limited than, the place-holder *ling* 0 of Modern Chinese. See Brainerd & Peng (1968).

[14]For *esrim* 20 the *-im* exceptionally expresses not the rankshifting of *eser* 10 to yield 100 but rather its doubling. See 3.4.3.

[15]They may be on the way to doing this; see fn. 27.

[16]Hurford (ibid.,101) has a convention for the "highly marked" semantic values 7,8,9 in French, as distinct from 1-6. We suggest that the three rules of Modern Hebrew referring to the feature [DIGITAL] render the *higher* numerals the unmarked ones. See 3.4.6.

appearing before definite N̄: *shloshet ha anashim* 'three the men' (= 'the three men'),
shloshtenu 'three-us' (= 'the three of us'). For numerals above 10 there is no alternation,
with the minor exception of *mea* '100'. The special lexical rules for forming ordinal adjec-
tives are similarly not invoked above 10. Both will be elaborated presently. First, though,
let us clarify the basic distinction between Numeral and Noun.

3.4.2. NUMERAL AND NOUN

Number Switch is revealing as to the status of the first item in phrases like *meot mocecim*
'hundreds-of pacifiers', *alfei shanim* 'thousands-of years', *milyonei tolaim* 'millions-of
worms', and the categorial status of numerals in general.

The matter has evoked little discussion in the general literature. Hurford (ibid.), though,
is prepared to grant some words the dual status of Numeral and Noun in English and Biblical
Welsh. For English he proposes a lexical redundancy rule, applying to all members of the
category M (i.e. *ten, hundred, thousand,...*), as input to the transformations: M → noun. This
posture, not unlike the lexicalist view of verbs and verbal nouns, stems from the following
considerations: "... the stressing rules proposed by Chomsky & Halle (1968) can operate
correctly only if the item *thousand* is categorised as a noun, rather than as an adjective or
a verb. And in other respects M's appear to behave as nouns. For example, in some dialects
M's may be pluralised, e.g. *three millions*; M's may sometimes be used as measure nouns, e.g.
hundreds of flowers...." Hurford does not seem to be suggesting that such words are ever
nouns *rather* than numerals; nor does he in the case of Welsh, where he claims, "*mil* is both
an M and a noun, *un ar hugain mil* [21,000] is both a PHRASE and an NP," since for three trans-
formational processes — involving copying, head deletion, and pluralisation — *mil* 1000 is
as much [+Noun] as it is [+M].

We would suggest that, on the evidence of Hebrew, the relation of Numeral to Noun can some-
times be much more like that between Verb and Verbal Noun, i.e. any lexical item that is +M
(i.e. a base numeral) will also be entered as a noun — but not at one and the same time.
(Note the semantically specialised nominal counterparts of digits, such as 'triad' and Hebrew
shlishiya 'trio'.)

Observe first that one says (19a,b) but not (20); instead there is (21):

(19) a. *elef shana*   b. *shloshet alafim shana*

        'thousand year'   'three thousands year'
        ('a thousand years')   ('three thousand years')

(20) **alfei shana*

        'thousands-of year'

(21) *alfei shanim*

        'thousands-of years'

In (19) the singular noun is possible, but not with *alfei* 'thousands-of'. The same distinction
in the workings of NS applies to *meot* 'hundreds-of', *milyonei* 'millions-of' and so on. Taken
together with the impossibility of strings such as **shloshet alafim ve meot tolaim* 'three
thousand and hundreds-of worms', and the unequivocal use of the construct form in the case of
elef '1000' in *alfei shanim* 'thousands-of years' — by contrast with its absolute form in
the numeral *shloshet alafim shana* 'three thousands year' — this suggests that such plural
forms as *alafim/alfei* 'thousands/thousands-of' lacking further numerical specification can-
not be viewed as numerals at all but just as nouns.

Probing further into these putative nouns, they are semi-countable: they can admittedly be
plural, and readily occur with such a quantifier as *kama* 'some', thus differing from a plural

non-countable noun such as *mayim* 'water', witness (22):

(22) a. *Ze nimshax kama alfei shanim.*

'It went on a few thousands-of years'

b. **Heveti kama mayim.*

'I brought a few waters'

But they are barely acceptable with numeral quantifiers or in the singular; hence the name "semi-countable":

(23) a. **Safarnu sheva meot cmaxim.*

'We counted seven hundreds-of plants'

b. **Shatalnu meat cmaxim.*

'We planted hundred-of plants'

c. **Ze nimshax esrim alfei shanim.*

'It went on twenty thousands-of years'

Particularly embarrassing here is the total unacceptability of the construct form *meat* 'hundred-of'.

Observe that in English the constraints on the putative noun (or quantifier) *thousand* are stronger. Not only are **a thousand of years*, **two thousands of years* ill-formed, but even **a few thousands of years* is, though certain quantifiers such as *several, many, how many* do seem to occur with such items in their role as ordinary nouns.

The exact way NS should be formulated so as to express this distinction between N and Numeral is not in fact immediately obvious. One might make the rule contextually sensitive to [-DIGI-TAL] Quantifier Phrases[17] comprising various Numerals (in which *mea* '100', *elef* '1000' etc. would appear in singular and plural form, but only when themselves quantified by some numeral, thus excluding *meot shana* 'hundreds-of year' and suchlike)' but insensitive to the bare plural items *meot* 'hundreds(-of)', *alafim/alfei* 'thousands(-of)' etc.[18], these being cast as ordinary N.[19] And in order to capture in turn these nouns' non-occurrence in the singular (**meat shanim* 'a hundred-of years') altogether or with numeral quantification (**sheva meot shanim* 'seven hundreds-of years'), we would first point out that a fair number of Hebrew nouns occur just

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[17]Quantifier Phrases, comprising QUANT plus various modifiers, figure in Bresnan (1973) and Glinert (in preparation).

[18]Our reason for giving both the absolute and the construct form of the plural of *elef* '1000', viz. *alafim* and *alfei*, is that qua numeral it does not exhibit the construct form altogether: *shloshet alafim ish* '3000 person', not **shloshet alfei...* The same may be inferred for occurrences of the numeral *meot* 'hundreds', though in this case there is no morphological distinction for absolute and construct. For a discussion of the structure of higher Numeral Phrases, see Glinert (1976a).

[19]The numeral *exad* 1, discussed in Glinert (1976a), could later suffer obligatory deletion, as in the Japanese system described by Brainerd & Peng (1968,66) and in the many languages for which Hurford (ibid,82) proposes his 1-Deletion Rule. This would explain the gap in the paradigm where **mea axat* 'one hundred' and **elef exad* 'one thousand' should have been expected instead of just *mea, elef*.

like this in the plural while spurning numeral quantification, among them *haxanot* 'preparations' and *levanim* (= laundry)':

(24) a. *Ani carix laasot kama haxanot.*

'I've got to make a few preparations'

b. *Ani carix laasot meot haxanot.*

'I've got to make hundreds-of preparations'

$*$*Ani carix laasot* $\begin{Bmatrix} arba \\ mea \end{Bmatrix}$ *haxanot.*

'I've got to make $\begin{Bmatrix} \text{four} \\ \text{a hundred} \end{Bmatrix}$ preparations'.

(25) a. *Kibasti hayom meot levanim.*

'I've washed out today hundreds-of whites'

b. $*$*Kibasti hayom* $\begin{Bmatrix} arbaa \\ mea \end{Bmatrix}$ *levanim.*

'I've washed out today $\begin{Bmatrix} \text{four} \\ \text{a hundred} \end{Bmatrix}$ whites'

For such nouns we propose a feature [NON-NUMERABLE], the set of non-numerable N including as a subset the non-countables such as *mayim* 'waters', *platina* 'platinum'.

Note that this analysis involves the feature [PLURAL] in Quantifier Phrases, expressing the occurrence of both singular and plural forms of *mea* '100' etc., besides its occurrence in NP. English and German, by contrast, do not inflect numerals within QuantP.[20]

Alternatively, one might have ascribed the distinction for NS between *mea* '100' and *meot* 'hundreds-of' to a mere functional — rather than categorial — dichotomy between N within QuantP and N as NP, or perhaps, more in keeping with Hurford's (ibid.) account of English and Welsh, to a dichotomy between NP and QuantP functions of a category Numeral. But the fact that, just in NP, *mea* '100' etc. conform to a feature [NON-NUMERABLE] — precluding $*$*sheva meot* 'seven hundreds' alongside the real Numeral Phrase (with the morphologically special digit *shva* '7') *shva meot* 'seven hundreds' — calls for more than a merely "functional" distinction between *mea* '100' and *meot* 'hundreds(-of)'. And the device most suited to such radical differences is the categorial N — Numeral distinction proffered above.[21]

There is no principled reason to shy away from such categorial homonymy. As a case where a minority of Numerals and a minority of N intersect formally, it differs little from the

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[20]This does not mean that Hebrew higher numerals are particularly close syntactically to their homophonous nouns. Besides the distinction for NS, there is that involving the link with the quantified N: apposition, as opposed to any of a number of potential genitive constructions, just as in English and German again. See fn. 18.

[21]A potential hazard is a case like *meot studentim shovtim* 'hundreds-of students are striking', where the masculine suffix of the verb would suggest that the masculine *studentim*, not the feminine *meot*, is the head of the subject NP. Such an analysis has indeed been made by Ornan (1973). Anticipating our projected "The Grammar of Modern Hebrew Quantifiers," we can infer from the exclusively third person suffix on the verb in *meot mikem shamu et ze* 'hundreds from-you heard it' and from cases like *mikcatxem naanu* 'fraction-of-you responded', in which the verb agrees with the construct *mikcat* and not with the construent suffix -*xem* and yet varies for gender and number according to the *semantic* status of the referent, that *meot* is indeed the head of *meot studentim* and is thus capable of the same roles as any noun.

homonymy entertained by a minority of Intensifiers and Quantifiers such as *kcat* 'a little' and *yoter* 'more' (see Glinert (1974)).

Three further observations as to the Numeral-N distinction pertain to our NS rule, to "construct" forms of numerals, and to Ordinal and Multiplicative expressions.

Meot 'hundreds' does not abet NS within the domain of the Numeral Phrase itself, whereas the numeral *mea* '100' certainly does. Compare (26a-c) with (27):

> (26). a.   *aseret alafim shana*
>
>   'ten thousands year'
>
> b.   *axad asar elef shana*
>
>   'eleven thousand year'
>
> c.   *mea elef shana*
>
>   'hundred thousand year'

> (27)   **meot elef shana*
>
>   'hundreds-of thousand year'

Instead, the numeral *elef* '1000' has to stand in the plural, or, more accurately, it is not a numeral at all in (28) below but rather a noun; hence the construct form characteristic of N — NP phrases, and the non-singularised noun *shanim*:

> (28)   *meot alfei shanim*
>
>   'hundreds-of thousands-of years'

So our NS rule must refer not only to certain N (of which we have hitherto mentioned only time units) but also to the Numeral *elef* '1000': when itself quantified by [-DIGITAL] numerals, its [+PLURAL] feature is reversed.

We can in fact let NS refer to the entire set of "base" numerals (category M). It will apply vacuously to *eser* '10', which is not used multiplicatively as a numeral at all, to *mea* '100' as it is only numbered by the [+DIGITAL] 2-9 anyway, and to *milyon* '10^6' and *milyard* '10^9', capable as they are in any case of appearing in the singular with any quantifier[22], e.g.

> (29)   *kama milyon heetekim*
>
>   'a few million copies'

Our Numeral-Noun distinction goes some way towards elucidating the curious alternation — already outlined — between "absolute" and "construct" forms of the numerals 2-10. Taking 7, we see that, when directly preceding a [-DEF] NP, it has masculine and feminine forms known as "absolute" forms; when followed directly by a [+DEF] NP, it has a distinct form (in the masculine at least[23]), the "construct":

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[22]We shall scrutinise such nouns below.

[23]These forms have never been documented, except for formal speech. While all digits in a MASCULINE NP have a distinct form in a construct situation, those within feminine NP tend not to change their form, except for the numerals 3,5,6, which ordinarily adopt the same distinct form as is found in masculine NP. For a fuller discussion, see our "A Categorically Determined Stress Shift in Modern Hebrew."

The reason for the term "construct" is that it is phonologically akin to the construct form of nouns, though the latter arises in a quite different context.

(30) a. *shiva xatulim*   b. *sheva xatulot*

       'seven tomcats'   'seven she-cats'

   c. *shivat ha xatulim*   d. *sheva ha xatulot*

      'seven the tomcats'   'seven the she-cats'
      ('the seven tomcats')   ('The seven she-cats')

Now consider (31):

   (31) a. *shivat alafim paroshim*   b. **shiva alafim paroshim*

       'seven thousands fleas'   'seven thousands fleas'

The construct form appears perplexingly whenever a [+DIGITAL] numeral is followed by *alafim* 'thousands', even though the latter is decidedly [-DEF].

But if we categorise *alafim* as a numeral (specifically, as M) rather than as just another noun, we may neatly account for (31a): numerals will display the construct form whenever they are not sistered by a [-DEF] NP, thus $_{NUM}[_{NUM}$ [shivat] $_M$[alafim]], and $_{NP}[_{NUM}$[shivat]$_{N,+DEF}$ [shirai]] 'seven poems-I (= my seven poems)'. As for the absolute form that always occurs when numerals stand alone — *shiva* 'seven', *hashiva* 'the seven' — and when they refer to a number and not a thing — *sheva* '7' — it could be maintained that these are not numerals at all but rather N and a very special type of N at that; note for instance that, when counting, one may say *shiva alafim* instead of the construct *shivat alafim* '7 thousands', which suggests that a reinterpretation of numerals as N takes place.[24] Alternatively, one might have the construct form whenever a numeral IS SISTERED BY ANYTHING OTHER THAN A [-DEF NP], an approach that will turn out to have certain merits.

Consider also the form of the feminine numerals that modify *meot* 'hundreds'. By contrast with (30b,d), we have (32):

   (32)   *shva meot xatulim*

       'seven hundreds cats'

Here the construct form *shva* is quite distinct from the absolute form *sheva*— notwithstanding our remark in fn. 23 that the numeral 7 does not have two distinct forms in the feminine. We simply propose that digit + *meot* strings, far from being Numeral + N, are in fact of even lesser syntactic "rank" than the digit + *alafim* phrases just outlined. They lie somewhere in between phrases and lexical items, as can be seen when we try to use such expressions as substitutes for [+DEF] NP: while we can segmentalise the article *ha* inside the numeral phrase *shloshet ha alafim* 'three the thousands (= the three thousands)'[25], we are unable to construct **shva ha meot* 'seven the hundreds' from *shva meot* '700'. Hardly less doubtful, however, is (33):

   (33)   ??*ha shva meot she notru*

       'the seven hundreds that remained'

This is a string we should have expected, were *shva meot* '700' a simple item instead (along the lines of *ha ben adam* 'the person', conflated historically from two N, *ben* 'son' and *adam*

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[24]For evidence about *shiva, ha shiva,* see Glinert (in preparation).

[25]The placement of the article was broached on p. 7.

'man').[26] But however we label and bracket digit + *meot* strings — and we offer no succour —
we shall credit them with a very special construct form of morphophonological complexity.[27]

Perplexing, though, is the inadmissibility of the construct form of digits modifying the
numerals *milyon* '10^6' and *milyard* '10^9':

(34) a. **shloshet milyon shana*   b. *shlosha milyon shana*

      'three million year'   'three million year'

(35) a. **shivat milyard lirot*   b. *shiva milyard lirot*

      'seven billion liras'   'seven billion liras'

That these two numerals are indeed of this category is beyond doubt: they both trigger Number
Switch, and, like any numeral, they can function as a sort of adjective with ordinal meaning:

(36) *Ha adam ha million higia arca.*

      'The person the million has arrived in the country'

But we can at least point to a further peculiarity of *milyon, milyard* that argues for a modi-
fication of our construct formation rule for numerals (cf. p. 16): both numerals, unlike other
"multipliable" numerals (*eser* '10', *mea* '100', *elef* '1000')[28] are moderately tolerant of both
exad '1' and *xeci* 'half', just like any ordinary noun:

(37) a. *Mispar ha kolot histakem be* $\begin{Bmatrix} milyon \\ *elef \end{Bmatrix}$ *exad bilvad.*

      'The number of votes came to' $\begin{Bmatrix} \text{million} \\ \text{*thousand} \end{Bmatrix}$ 'one only'

    ('The number of votes came to one {million,thousand} only')

    b. *xaci* $\begin{Bmatrix} milyon \\ *elef \end{Bmatrix}$ *matbeot*

      'half' $\begin{Bmatrix} \text{million} \\ \text{'thousand} \end{Bmatrix}$ 'coins'

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[26]Equally uninstructive for the structure of *shva meot* and its ilk is the coordinative. While
"compounds" like *shva esre* '17' ('seven ten') do not permit such disjunction as **shesh o
shva esre* '16 or 17' ('six or seven ten'), speakers differ sharply as to the acceptability
of *shesh o sheva meot* 'six or seven hundreds' (with the morphologically more regular *sheva*)
and even *sheshet o shivat alafim lirot* 'six or seven thousands liras'.

[27]Further special morphophonological provisions are needed to capture the complex 11-19:
the "construct" digital numeral 2 is the exceptional *shtem*, and the "construct" 8 is usually
shmona as opposed to the more common *shmone* of *shmone meot* '800'. And, in an alternative
set of 11-19 numerals that sometimes figures with masculine NP, the digital component of
the numeral is perplexingly in the absolute state altogether, e.g. *shiva asar* '17' rather
than *shivat asar. But note that such numerals are, towards the end of their derivation,
unequivocally single lexical items, witness the placement of the article: *ha shiva asar*
'the 17', not *shivat ha asar 'seven the ten' (and see fn. 26). So our earlier rule in-
ducing the construct form wherever the numeral is sistered by anything other than an indefinite
NP will take care of this too: the numeral, being conflated with another numeral, 10, under
the same node (not, be it noted, by Chomsky-adjunction), is not being sistered at all, a
circumstance opening the way for special morphophonological rules (yielding *shmona esre* etc.)
or their complete absence (giving *shiva asar* etc.).

[28]See fn. 19.

As it is our suspicion that the problem of *xeci* 'half' is common to English and other languages (perhaps as a result of Hurford's (ibid.) Packing Strategy), whereas that of *exad* '1' may be a mark of Hebrew, we shall refer just to the latter in this duscussion. *Milyon* and *milyard* have been shown to exhibit two traits of N and two of Numerals. We propose to represent them as numerals bearing a secondary [+N] feature, for the two noun traits can be reduced to one: the non-existence of *mea axat* 'one hundred' etc. is simply due to the fact that *exad/axat* '1' lacks the requisite construct form[29], witness the absence of *exad* '1' within the construct form paradigm for [+DEF] NP — *shloshet ha yadiot* 'three the handles', *shtei ha yadiot* 'two the handles', but not **axat ha yadit* 'one the handle'.[30] In fact it appears that *exad* '1' is there in deep structure, only to be deleted, leaving *mea* 'hundred'.[31] Now since *milyon*, *milyard* do not require construct numerals altogether (cf.(34)), *exad* '1' is free to appear at will, as in (37).

As *milyon, milyard* can thus be said to display just the one noun trait, and two numeral traits, it is best to let the Number Switch rule and the Ordinal Numeral rule refer to them as ordinary numerals — with no change in either rule — and to have the Construct Form Formation rule shoulder the addition of "and +N" to its condition of occurrence, yielding "is sistered by anything other than a [-DEF] NP and +N". Otherwise one would have to add a reference to +NUMERAL to TWO unconnected rules, leaving just the Construct rule unchanged — a costlier account.

To conclude this second observation on the Numeral — N distinction, we would just add that our Construct Formation rule for numerals is altogether fairly well motivated. In case its condition of occurrence should cause dismay, note that another late rule, inserting the preposition *et* before objects, can be ascribed the very same condition: *et* accrues except if this would mean sistering anything but a [-DEF] NP.[32]

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[29]This should not be taken as running counter to Hurford's (ibid.) idea of a widespread 1-Deletion rule. What we have to explain is its obligatory nature in Hebrew.

[30]Equally impossible is the conceivable **ha yadit ha axat* 'the handle the one', seeing that *exad* '1', unlike most quantifiers, must follow its head. Note that the construct form, *axad* for *exad* (in the masculine), does occur — *axad ha xatulim* 'one-of the tomcats' — but, as evident from the gloss, with a partitive meaning. We assume this to be merely homonymous with the construct construction.

[31]How the derivation is saved from blocking is in fact unclear.

[32]Or, vacuously in fact, a [+NP]. Hayon (1973,62) states this rule with a POSITIVE condition ("NP = +DEFINITE"), thus forfeiting a generalisation with the construct rule, which, positively stated, applies to both +DEF NP and numerals. The same holds for Cole (1975), who has a specialised ET-Deletion after a general ET-Insertion within the Case Marking T-rule. He has *et* deleted whenever it does not precede a +DEF NP, e.g. in the relative structure [ha baxur [ani raiti et]] '[the boy [I saw *et*]]'. Quite apart from missing our generalisation, this is based on a dubious conception of Relativised Noun Phrase Deletion: Cole has Deletion occur within PP, and then invokes a surface constraint on Preposition Stranding. We doubt that there is such a constraint, for in Glinert (1974) we propose a much wider constraint against the violation of PP or NP boundaries by moving in either direction, and are thus in a position to explain why a preposition can be stranded in (certain) cases where it is chopped in situ — *ata holex bli ve ani holex im* 'you go without and I go with' — but not where it would involve moving: **ma ata holex im?* 'what do you go with'. By combining this with a notion of pied piping (as in Ross (1967)), we obviate the need for a special deletion rule removing *et* that are not followed by +DEF NP. And indeed, we need instead a special extrinsic rule ordering and a separate ET-Insertion, rule, if we are to explain why we do not always find pied piped *et* + NP relativised phrases.

Cole would reject our approach as more complex "in the absence of empirical evidence to the contrary." We believe we have provided the evidence, and also fancy that his arguments from Hebrew causatives may founder on the independent need for Case Marking for double objects of non-causative verbs like *inyen* 'to interest'.

A third point, confirming the Numeral — N distinction, is its perfect consonance with two other phenomena, Ordinals and Multiplicatives. We remarked above that numerals can function as a kind of attributive adjective with ordinal meaning, thus:

(38)   *ha paam ha shlosh meot*

          'the time the three hundreds'
          ('the three hundredth time')

Inadmissible, however, are unquantified instances of *asrot, meot* 'tens, hundreds' etc., witness (39); they are again being treated as stock nouns:

(39)   **Ze kara ba paam ha meot.*

          'It's happened for the time the hundreds'

Recall that English expresses this by *umpteenth* and suchlike.

The multiplicative particle *pi* '-fold' is equally incompatible with *meot* and the like:

(40)   a.   *Sirius pi matayim yoter bahir mi koxav ha kotev.*

            'Sirius is fold two hundreds more bright than the polestar'
            ('Sirius is 200 times brighter than the polestar.')

       b.   **Hu pi meot yoter bahir.*

            'It is fold hundreds more bright'

In fact multiplicatives can tell us something about *meot* 'hundreds' etc. that the NS rule cannot: one might have taken such words for Quantifiers rather than for N, given the gender of the verb suffix in a sentence like (41) below in which the masculine suffix *-im* suggests that *rabanim* 'rabbis' and not the outwardly feminine *meot* is head of the NP:

(41)   *Meot rabanim meashnim.*

          'Hundreds-of rabbis smoke'

Already in fn. 21 we offered evidence that *meot* is not a quantifier but a head N with very special semantic-syntactic properties. We can ram home our thesis by observing that while, in Multiplicatives, quantifiers like *kama* 'a few' and *kama?* 'how many?' are perfectly in order, *meot* and its ilk are not:

(42)   *Hi pi kama yoter mevugeret.*

          'She's a few fold more old'

To close our discussion of the numeral — N dichotomy as revealed in Number Switch, note that, while implicit in rules proposed for many numeral systems, the distinction has not won the attention it merits.[33] The fact that the French *cent, mille* occur only after numerals or alone (witness, for instance, {**des,***combien de,**quelques} *mille ans*) and that *million* acts in every way like a regular noun; the fact that the German *hundert, tausend* are uninflected for plurality after numerals and after certain quantifiers such as *mehrere* 'several', while *Million* acts in some ways like a numeral (*Millionen von Menschen* but *eine Million Menschen*) and in some ways like a noun (witness the inflection in *zwei Millionen Menschen*); the fact that *hundred, thousand* AND *million* are uninflected for plurality after numerals and certain quantifiers such as *several, a good few*; this, taken together with the numeral — N distinction for Hebrew and the ambivalence of *million* therein, argues for certain hierarchical constraints on

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[33]Witness, for example, the treatments of Romanian, French, Dutch, Chinese, Japanese and Tamil in Brandt Corstius, ed. (1968).

the expression of number. A counter-example, though, to any notion that Numeral-Noun homonyms are always available may be Romanian: *trei sute de lei* 'three hundreds of Lei' and *sute de lei* 'hundreds of Lei'; *o mie de lei* 'one thousand of Lei' and *mii de lie* 'thousands of Lei' where the preposition *de* occurs in both contexts.

3.4.3. THE INTERNAL STRUCTURE OF THE NUMERAL PHRASE

Number Switch, as formulated so far on p. 11 — "when preceded by a [-DIGITAL] numeral" — has not been pronounced optional or obligatory. It is in fact both, for contexts now to be described. Consider:

(43) a. *Ze lakax esrim shana.*   b. **Ze lakax esrim shanim.*

          'It took twenty year'   'It took twenty years'

(44) a. *Ze lakax xamesh shanim.*   b. **Ze lakax xamesh shana.*

          'It took five years'   'It took five year'

(45) a. *Ze lakax esrim ve xamesh shanim* b. *Ze lakax esrim ve xamesh shana.*

          'It took twenty and five years'   'It took twenty and five year'

These, and certain other details of the optionality or otherwise of NS, can tell us much about the internal structure of the Numeral Phrase — particularly how to represent 11-19, which we portrayed in fn. 27 as a lexical "phrase" of sorts, coordinating digits and tens, and the tens from 20 to 90, apparently "plural" forms of the digits for 2 to 9. Then in 3.4.4. we shall seek insight into the very function of a singularisation that begins only at 11, by revisiting two constructions already introduced — the Ordinal and the Constructive.

Leading off with (45), we might have aimed to account for (b) by simply gearing NS to the whole Numeral Phrase; one could assign [-DIGITAL] to all numerals over 10. But the Hebrew numeral system, like any other, consists of more than a series of "primes" marked [±DIGITAL]. Besides those for 1-10 and *mea* '100', *elef* '1000', *milyon*, and *milyard*, it boasts "additive" and "positional" traits: 11-19, as observed, are a coordination of (an allomorph of) the numerals for 1-9 with an allomorph for 10; and other numerals similarly involve addition (i.e. coordination), while miltiples of the primes involve internal quantification by which the primes take the plural form. Thus we have *shlosh meot* 'three hundreds', *shloshet alafim* 'three thousands', and, apparently, the tens — *esrim* '20', *shloshim* '30', *arbaim* '40' etc. — which can, with minor morphological allowances, be seen as plural forms of the digits *eser* '10', *shalosh* '3', *arba* '4' etc., arising by an ad hoc deletion of an underlying quantifier (i.e. from *shnayim esrim* 'two tens' and, otherwise, from *eser shloshim* 'ten threes' etc.).[34]

This rule is, indeed, highly ad hoc, as the *shalosh*, *arba* etc. cannot be pluralised with any other numeral. On the other hand, Hurford (ibid.) reports a similar situation for Danish: "*Tyve* [20] is [...] the irregular plural form of *ti*. *Tyve* is then literally 'tens'. [...] An idiosyncratic rule deleting # *to* # [2] when it occurs before *tyve*...' For an identical situation to that of Hebrew, compare Literary and Spoken Arabic.

By virtue of the fact that all coordination[35] and quantification of numerals yields a number

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[34] For independent evidence that the *-im* in the tens is indeed to be identified with the familiar plural suffix *-im*, see p. 21.

[35] More precisely, all coordination involving diverse subcategories of numerals, as distinct from coordinates such as *shalosh o arba nashim* '3 or 4 women'. Hurford's (ibid.) rules capture this difference.

over 10, we can express our "threshold" in this very way: let the inherent feature [-DIGITAL] automatically accrue, in the course of inserting any [±DIGITAL] prime into a coordinate or quantified numeral structure, to the whole phrase. Thus phrases as diverse as *axad asar* '11' or *esrim* '20', none of whose components are in fact [-DIGITAL], will automatically be counted as such by the onset of the NS rule; and we shall not have forfeited any generalisation concerning the make-up of Hebrew higher numerals.[36]

So by specifying NS for something amounting to "...when preceded by a [-DIGITAL] Numeral Phrase," we shall generate (45b) above.

But that leaves (45a) unaccounted for. A further curious adjustment in the NS rule is called for: the rule is OPTIONAL — except where the Numeral Phrase involved ends in a plural suffix. That is, with *esrim* '20', *shlosh meot* '300', *xameshet alafim* '5000' and suchlike, i.e. numerals ending in an *-im* or an *-ot* suffix, NS is de rigueur: one cannot say (46a-c) below[37], whereas (47a-c) are quite in order as an option:

(46) a.   *Ze dolef kvar esrim shanim.*

       'It's been leaking twenty years'

    b.   *Ze dolef kvar shlosh meot shanim.*

       'It's been leaking three hundreds years'

    c.   *Ze dolef kvar xameshet alafim shanim.*

       'It's been leaking five thousands years'

(47) a.   *Hu brogez kvar shlosh esre shanim.*

       'He's been cross three ten years'
       ('He's been cross for thirteen eyars.')

    b.   *Hu brogez esrim ve xamesh shanim.*

       'He's been cross twenty and five years'

    c.   *Ani muxan lehamshix od mea shanim.*

       'I'm ready to go on another hundred years'

Thus the obligatory version of Number Switch is but a case of dissimilation; and, like morphological assimilations such as concord, its putative naturalness as a syntactic process can be captured by "feature variables"[38] — roughly: α PLURAL $\rightarrow$ $-\alpha$ PLURAL$/_{\text{NUMERAL, P}}$ $[X\,\alpha\,\text{PLURAL}]\underline{\qquad}$, in other words, the plural feature reverses its value when immediately preceded by a Numeral Phrase whose final member bears an identically valued plural feature. That we are able to use feature variables is due to the fact that, with non-plural numerals, the noun they modify must — for a quite separate reason, viz. the normal plurality of counted nouns — be plural in any event.[39] This is admittedly an artificial use of feature variable

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[36]That the unmarked value should spread is in keeping with marking conventions.

[37]Pace Rosen (1962,122) who imagines common time units to appear "in the singular, if the numeral preceding them is higher than '10', but this is not obligatory."

[38]See Chomsky & Halle (1968,83).

[39]As for the nonplural numeral *exad* '1', which, not surprisingly, takes a nonplural N, it conveniently follows the N at this stage, and is thus not in the scope of our rule as formulated.

notation, but the one-way dissimilation we are portraying does merit some abbreviatory device. One wonders if syntactic dissimilation is not widespread.

Notice that the [PLURAL] value of the numeral itself was already broached after (25); we now possess even stronger grounds for awarding a feature [PLURAL] to Numerals as well as Nouns.

Before preceding to develop the [±DIGITAL] distinction, and then turning to another rule, Super Number Switch, let us consider NS against the background of other Hebrew rules. A glance at Arabic is instructive.

In colloquial forms of Arabic, it appears that Number Switch (to which we referred in fn. 9) is altogether much simpler. Tomiche (1964) regards 10 as the break-off point for an obligatory singularisation, whatever the internal structure of the Numeral Phrase, thus *talattašar nāgel* '13 man', *xamsa-w-ᶜešrīn nāgel* 'five and twenty man'. But compare (79) in 4.2. for the Arabic version of Super NS. Khalafallah (1969,56) also observes that the rule does not apply to POSTNOMINAL numerals: compare *liħda:šer be:t* 'the eleven house' with *libyu:t liħda:šer* 'the houses the eleven'.

In Hebrew, however, numerals are never postnominal, with the vacuous exception of *exad* '1'. But, as we shall see under Super NS, sundry QUANT are also involved in another form of singularisation, among them *mispar* 'a number-of', which — apparently alone among Modern Hebrew quantifiers — also acts postnominally: *mispar yamim* 'a number-of days', *yamim mispar* 'days a number-of'. And when a noun like *kilometer* undergoes NS (in fact, in this case, Super NS), it is only for a PREnominal quantifier:

(48) a. *Acarnu mispar kilometer lifnei atlit.*

      'We stopped a number-of kilometer before Atlit'

   b. **Acarnu kilometer mispar lifnei atlit.*

      'We stopped kilometer a number-of before Atlit'

   c. *Acarnu kilometrim mispar lifnei atlit.*

      'We stopped kilometers a number-of before Atlit'

So we suggest, in anticipation of Super NS, that the rule as a whole in Hebrew is somehow to be compared to another feature-change rule that works forward only, [DEF] Concord: this rule was depicted on p. 6 as spreading [DEF] to modifiers of certain types, including determiners, thus *ha svara ha hi* 'the hypothesis the that (= that hypothesis)', *ha pasuk ha ze* 'the verse the this'. But prenominal determiners refuse the article:

(49) a. **ha ze ha pasuk*   b. *ze ha pasuk*

      'the this the verse'   'this the verse'

(50) a. **ha ota ha plugta*   b. *ota ha plugta*

      'the that the dispute'   'that the dispute'

We surmise that, although [DEF] Concord is a movement rule[40] while NS is not, a larger generalisation is to be found hereabouts.

3.4.4. ORDINALS

We now seek further insight into our [±DIGITAL] distinction for Numeral Phrases by reconsidering Ordinals and Constructives, discussed earlier (exx (38),(39) and exx (30),(31) respectively).

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[40] See Ross (1967).

Both are sensitive to the feature.

To begin with Ordinals, we remarked that numerals such as *milyon* can function as a sort of adjective with ordinal meaning. They are in fact to be viewed not as denominal adjectives but merely as particular syntactic functions of the category Numeral (or M), on three counts: first, unlike true adjectives but like a certain type of denominal adjective such as *suri* 'Syrian' — as in *kol mitkaʃa surit* 'every Syrian offensive' — ordinal numerals can serve only attributively, never predicatively. Thus:

(51)   *Mi gamar esrim?*

         'Who came twenty (= twentieth)?'

Second, and this is perhaps inclusive of the first phenomenon, ordinal numerals do not appear in [-DEF] NP:

(52)   *Kol adam esrim ve xamesh yekabel heetek shel ha maamar.*

         'Every person twenty and five will receive a copy of the article'
         ('Every twenty-fifth person etc.')

Finally, even [+DEF] ordinal numerals do not tolerate Equi-Head Deletion, i.e. (53b) cannot paraphrase (53a); in this respect they can be likened to two other kinds of modifier — Determiners and Relative S[41]:

(53) a. *Nixshalti ba paam ha tsha esre ax avarti ba paam ha esrim.*

         'I failed on the time the nineteen but passed on the time the twenty'
         ('I failed on the nineteenth time, but passed on the twentieth time.')

     b. *Nixshalti ba paam ha tsha esre ax avarti ba esrim.*

         'I failed on the time the nineteen but passed on the twenty'

Without offering a unified explanation of these traits, we do obtain some idea of the status of the ordinal.

What concerns us here is the inability of [+DIGITAL] Numeral Phrases to serve as Ordinals, i.e. as modifiers; and the corresponding failure of [-DIGITAL] Numeral Phrases to form adjectives. Ordinals thus form two complementary systems. (54a,b) for instance are ill-formed:

(54) a. *Nixshalti ba paam ha tesha.*

         'I've failed on the time the nine'

     b. *Nixshalti ba paam ha meit.*

         'I failed on the time the hundredth'

Instead, [+DIGITAL] numerals have true adjectival forms[42] (immune to the aforesaid restrictions), as in (55a)). Note however (55b,c):

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[41]See Glinert (in preparation).

[42]In line with Chomsky (1970), these could appear alongside the numerals in the lexicon, in a unified entry.

The English ordinals seem to have been satisfactorily represented only in definite NP. Thus Stockwell et al. (1973,135) provide (ORD) (QUANT) (CHIEF), regarding post-quantifier ordinals as in *every second child was given a pencil* as "exceptional". They might have mentioned

(55) a. *Avarti ba paam ha tshiit.*

'I passed on the time the ninth'

b. **Avarti ba paam ha esrim ve tshiit.*

'I passed on the time the twenty and ninth'
('I passed on the twenty-ninth occasion.')

c. *Avarti ba paam ha esrim ve tesha.*

'I passed on the time the twenty and nine'

The unacceptability of (b), in which a digital numeral is a component of a coordinated non-digital expression, can be derived naturally from the inadmissibility of the non-digital component (*esrim* '20') as an adjective in this particular syntactic slot. Had *esrim* '20' been capable of fulfilling all the functions of an adjective, one might well have expected Hebrew to possess a compounding rule creating "compound ordinal adjectives" just as it creates compound cardinal numerals like *esrim ve tesha* 'twenty and nine'; and indeed such a rule exists in English, where the items *twenty* and *nine*, both of which lead an adjectival existence, can be compounded — yielding (after low-level adjustment) *twenty-ninth*. In Hebrew, by contrast, [-DIGITAL] numerals such as *esrim* '20' do not take on adjectival functions, so a compound ordinal adjective like *esrim ve tshii 'twenty and ninth' is ruled out.

3.4.5. CONSTRUCTIVES

Digital numerals, and — with one exception to be noted — they alone[43], take a special construct form in constructives, as outlined above (exx. (30),(31)). Thus non-digitals such as *shloshim* '30', which, like any form ending in a plural morph[44], might have been expected to exhibit a distinct form *shloshei 'thirty', knows no such form. Exception might be made for *mea* '100', some speakers using a construct form *meat*.

As for other non-digital expressions, even where they contain a [+DIGITAL] component, everything remains in the absolute form:

(56) a. *shloshet ha metilim*

'three the ingots'
('the three ingots')

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that this example of a -DEF ordinal also fails to take the infinitival complement typical of ORD and CHIEF: **every fourth person to pass the post gets a prize.* So -DEF Ordinals in Hebrew may act strangely with good cause.

Note that the DIGITAL distinction holds for Colloquial Arabic too: after 10 there are no separate construct forms, except for *miye : mit* 100, nor any separate ordinal adjectives. The ordinal in *rom*   (colloquial) Arabic, as described by Khalafallah (1969,56f.), warrants a "functional" rather than a "lexical" account even more than Hebrew; all "cardinal" numerals are used ordinally, prenominally till 10 and postnominally thereafter, e.g. *xāmes jawa:b* 'five letter (= the fifth letter)' vs. *xames ajwibe* 'five letters'. But notice a curious distinction, due to Abdul-Fetouh (1969,80f.), to the effect that, while cardinals display a definite article at the head of the whole phrase, ordinals display it on both additive constituents: *ʾilwa:hid wiᶜišri:n* 'the one and twenty' vs. *ʾilwa:hid wilᶜišri:n* 'the one and the twenty (= the 21st.). For further aspects of DIGITAL in Arabic, cf. Wise (1975).

[43]We observed on p.18 that the numeral *exad* has no true construct form — just one of its many peculiarities.

[44]See p. 21.

b. *eshim ve shlosha ha metilim*

'twenty and three the ingots'

c. **eshim ve shloshet ha metilim*

'twenty and three the ingots'

In actual fact, both (b) and (c) can be motivated without reference to digitality, as we shall now reason.

Whereas the morphologically unadjusted ordinal expression in (55c) above had an entirely different syntactic function from the "ordinal adjective" in (55a), and had thus to be constrained (to cover just non-digitals) by a device quite separate from that constraining the occurrence of the "ordinal adjective," the morphologically unadjusted construct numeral of (56b) fulfills the same function as its suffixed counterpart of (56a) — and any device constraining the appearance of the latter can by implication generate the former. As we shall see, this device need not refer to the feature ⌊DIGITAL⌋.

The crux of our argument is our conception of the Constructive as involving two levels of syntax — the PS rules and the morphophonology. We earlier argued for generating the various Constructives by various PS rules, all of which have NP as the second component. Now the first component can be a noun, a numeral or an adjective. As for the distinct construct form that many construct words exhibit, it can be created by a low-level rule keyed to this syntactic environment. Now where Constructives involving numerals step out of line is in permitting the construct to be phrasal rather than exclusively lexical; morphologically, on the other hand, numerals respond to a Constructive situation just like any N or Adj would. How this gives rise to (56) will now be demonstrated.[45]

First the evidence that construct numerals are indeed phrasal:

(57) a. *ʾha shloshet alafim she hiclixu livroax*

'the three thousands that succeeded in fleeing'

b. *shloshet ha alafim she hiclixu livroax*

'three the thousands that succeeded in fleeing'

c. *shloshet alafim ha ohadim*

'three thousands the fans'

(58)   *ha shlosh esre she xadru*

'the thirteen (three ten) that got through'

In (57) *shloshet alafim* '3000' is shown first as a Numeral Phrase by itself, witness the aversion of the article *ha* to preceding the whole, by contrast with (58) and its non-phrasal numeral (see fn. 27); and then as construct in a constructive NP, as indicated by the positioning of the article right in front of the NP in the $_{NP}$[NumP - NP].

So it is only to be expected that numeral strings of the sort *eshim ve shlosha* '23' — which are not even phrasal in rank but merely compound numerals[46] — should function as first

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[45]For further debate on numerals as constructs, see Glinert (1976 a).

[46]This is the implication of the acceptability of *ha eshim ve shlosha* 'the twenty and three (= the twenty-three)' with its single article and the unacceptable **ha eshim ve ha shlosha* with the repeated article, by contrast with a productive structure like *ha sfarim ve ha maamarim* 'the books and the articles', where the second article is undeletable. Such compound numerals can be derived, as in Hurford (ibid.), from the phrase NUMBER [/ NUMBER].

component in constructives like (56b). And the fact that such compound numerals do not ex-
hibit a distinct construct form (witness (56c)) is partly captured in terms of the correspond-
ing lack of a distinct construct form for compound adjectives, such as *afor yarok* 'grey-
green'[47], when these function as constructs in phrases of the form Adj - N:

> (59)   *Xalamti al malka afora yerukat enayim.*
>
>   'I dreamed of a queen grey green-of eyes'
>   ('I dreamed of a grey-green eyed queen.')

And in case one might imagine that (56c) and its ilk could still arise in the guise of two
COORDINATED construct numerals (for *esrim* '20' can, as we have seen, do service as a construct),
the fact that *esrim* does not, qua non-digital numeral, possess a distinct construct form
would suffice to block this particular line of derivation. For Hebrew cannot apparently co-
ordinate two construct N of the type *taxritei* 'engravings-of' and *tmunot* 'pictures-of', the
first of which is endowed with a distinct construct form (the suffix *-ei*) but not the second,
witness (60).[48] So it is no wonder that we cannot conjoin *esrim* '20' — non-distinct for
construct form — with *shloshet* '3', whose *-et* brands it as a construct:

> (60)   *Ani meunyan be taxritei uve tmunot ha askola ha flemit.*
>
>   'I'm interested in engravings-of and in pictures-of the Flemish School'

Note incidentally that our compound numerals are, for all that, different from compound adjec-
tives and from coordinated N of the type blocked in (60): for, whereas the inability of the
latter to develop their construct form is a (surface) constraint that spells the total throw-
away of the derivation — witness (61) — the former do make the surface in the form of (56b)
etc. The solution must await a fuller understanding of Hebrew compounding, though the ability
of the compound *din ve xeshbon* 'report and account (= report)' to serve as a (morphologically
non-distinct) construct, as in (62b), does hold out some hope:

> (61) a.   *malka afora yeruka enayim*
>
>   'a queen grey green eyes'
>
>   b.   *taxritim ve tmunot ha askola ha flemit*
>
>   'engravings and pictures the Flemish School[49]'
>
> (62) a.   *ha din ve xeshbon*
>
>   'the report and account'
>
>   b.   *din ve xeshbon ha mevaker*
>
>   'report and account the comptroller'

The outcome of this discussion of numeral Constructives is that compounds such as *esrim ve
shalosh* 'twenty and three' fail to display the distinct construct form in their digital com-
ponent (e.g. *shloshet*) because of the very nature of Hebrew compounding and coordination; and

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[47]That this is a compound is clear, again, from the article: *ha enayim ha aforot yerukot*
  'the eyes the grey green' vs. *ha enayim ha aforot ha yerukot.* See Lees (1960,178).

[48]By contrast, two nouns both displaying a construct suffix — say *taxritei* 'engravings-of'
  and *ciyurei* 'paintings-of' — coordinate smoothly.

[49]This is of course grammatical when *taxritim* is not taken as referring to the 'Flemish School'.

the overall compound too, like any compound or indeed like any non-digital numeral, has no distinct construct form of its own.[50] That we can nevertheless insert any numeral into a construct phrase [NumP - NP] is, as we have seen, a separate matter.

3.4.6.   SUMMARY OF NUMBER SWITCH

The overall implication of our account of Number Switch so far, and of Ordinals and Constructives, is, however, that the [±DIGITAL] distinction is indeed fundamental to Modern Hebrew. In [-DIGITAL] contexts, three marked[51] morphological processes — involving the features [+PLURAL], [+ADJECTIVE] and the construct environment respectively — are rendered either optional in some sense or inadmissible.   In terms of universal marking conventions, this account of Hebrew numerals is thus quite highly valued.   Furthermore, the value [-DIGITAL] is itself unmarked, in the sense that the combination of a + and -DIGITAL numeral, as in *esrim ve shalosh* 'twenty and three', is invariably treated as [-DIGITAL] in the creation of ordinal modifiers etc.   This aspect too is highly valued in terms of general theory.

We have so far portrayed NS solely in the context of "time units whose plural suffix is otherwise *-im*."   Now NS of this sort does occur with certain other nouns, as we shall now show briefly.

To the best of our knowledge, the only other N sensitive to the feature [DIGITAL] are *nefesh* 'soul', *yeled* 'child', *talmid* 'student' and *amud* 'page'.   Thus, for example, one may read *shivim amud* '70 page' but scarcely **shiva amud* '7 page' — *shiva amudim* '7 pages' is the rule.

Three points deserve to be made: (i) Whereas NS for time units is obligatory at least for numerals ending in a plural morph (cf. p. 21), it is fairly optional for these four nouns — a semantically grounded distinction.[52]   (ii) The rule never applies to the marked counterparts of these N, e.g. one cannot say:

(63)   **Ba kita hayu shishim yalda.*

          'In the class were sixty girl'

We shall not comment on this until we have presented the Super NS rule in the coming sections, for various reasonable explanations exist.   (iii) The rule seems not to apply to N like *ben* 'boy', *baxur* 'youth', *student* 'student', even though they are syntactically and semantically [-FEMININE].   In terms of semantic components, *student* is presumably more marked than *talmid*

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[50]Mantsur (1954,21) attributes the predominance of the absolute form in Biblical compound numerals to their being a whole unit, but does not explicate this notion.   Rosen (ibid,116) would dispute that the digital numerals behave any differently in the construct form when part of a compound numeral.

[51][+PLURAL] is marked because it, and not [-PLURAL], is realised in surface structure.   Many adjectives, such as ordinals, are suffixed forms of nouns.   As for the construct state, it is admittedly not morphologically more complex than the absolute state, but there is clearly an ongoing conspiracy in Hebrew to abandon certain types of construct form (e.g. words of the pattern *medor, mexon*, in favour of the absolute form *mador, maxon*), so we must recognise the construct form as marked.

[52]In the behaviour of *paam* 'time', we have evidence that the notion of a "time unit" is present in Hebrew semantics: while all the other N to which NS applies obligatorily also trigger obligatorily the conversion of the numeral *shnayim* '2' into the suffix *-ayim* (thus *xodshayim* 'two months' and not **shnei xodashim*), *paam* 'time' serves both rules optionally. Thus one can say *xamishim paamim* 'fifty times' and *shtei paamim* 'two times' alongside *xamishim paam* 'fifty time' and *paamayim* 'time-two'.   See p. 32.

above, which covers both 'pupil' and 'college student'; whether the same can be said of *ben, baxur* in relation to *yeled* above is a matter for speculation, as is the reason for the rule's applying to *amud* 'page' but not to *mila* 'word'.

Nor is it clear, more generally, why just time units, people and pages seem to merit this special syntactic treatment. But before broaching this, let us chart the effects of what we dub Super Number Switch, a rule with intriguing implications for the syntactic and semantic make-up of both nouns and quantifiers.

4. SUPER NUMBER SWITCH

Consider the following:

    (64)   *Ba gdud sheli hayu shloshim ish.*

            'In my unit were thirty person'

On the face of it, we have a familiar story: *ish* 'person' is singular, its verb plural. But (65) demonstrates that, even with a digital numeral, *ish* can appear rather than the plural *anashim*:

    (65) a. *Hizmannu shmona ish.*

            'We invited eight person'

       b. *?Hizmannu shmona anashim.*

            'We invited eight persons'

       c. **Hizmannu shmona yeled.*

            'We invited eight child'

A uniform preference for the singular form is felt both with non-digitals and with numerals ending in plural morphs (such as *esrim* '20'); this contrasts with the sharp gradation for NS with time units etc: **shmone shana* 'eight year': *shmone esre {shana,shanim}* 'eighteen {year, years}': **shmonim shanim* 'eighty years'. *Ish* 'person' in fact is but one of a large class of nouns that entertain Number Switch in much broader circumstances, whence the epithet "super."

4.1. QUANT, NUMERAL, and +QUANT Pro-Numerals

The occurrence of *ish* 'person' with certain apparent quantifiers is just another matter of broader import to arise from our study of a minor feature-change rule. We base ourselves initially on (66,67):

    (66) a. *Kama ish hizmant?*

            'How many person did you invite'

       b. *Hizkart she hizmant {?kama,*mispar} ish.*

            'You mentioned that you invited {?a few,*a few} person'

       c. **Ha paam hizmannu {harbe,yoter,meot} ish.*

            'This time we invited {a lot of,more,hundreds-of} person'

    (67) a. *xameshet alafim tfasim*

            'five thousands forms'

b. *xamishim eleʃ tʃasim*

'fifty thousand forms'

c. *Kama {*alaʃim,*eleʃ,alʃei} tʃasim?*

'How many {*thousands,*thousand,thousands-of} forms?'

d. *meot {*alaʃim,*eleʃ,alʃei} tʃasim*

'hundreds-of {*thousands,*thousand,thousands-of} forms'

Ish 'person' in the singular, we learn from (66), is possible with *kama?* 'how many', marginally with the homonym meaning 'a few', but not at all with the other exemplified quantifiers/nouns.

Now semantically one would set all these items apart from numerals. Syntactically too, despite the traditional unitary categorisation for English (in, for example, Lakoff (1971) and Jackendoff (1972)), Hebrew numerals and quantifiers may be said to form distinct categories: quite apart from the (in itself insufficient) fact that certain of the former inflect for gender and that certain others among them can function ordinally, it is the whole set of numerals — and they alone — that are able to modify *mea* '100' and *eleʃ* '1000' qua numerals (cf. 3.4.2.). (67) above illustrates that, with the putative quantifier *kama*, be it in the sense of 'how many' or 'a few', *eleʃ* acts like any noun and not like a numeral; the same goes for *harbe* 'a lot', *meot* 'hundreds-of', and other non-numerals.

In view of the acceptability of the singular *ish* with *kama* 'how many' and perhaps 'a few', we propose that Super NS refer to a class of pro-numerals as well as to numerals. For observe that *kama?* can be seen as the interrogative pro-form of the category Numeral, since a question like (68) is appropriately answered with a numeral:

(68)   *Kama amdu ba tor?*

'How many were standing in the queue?'

And at the risk of disregarding the meaning 'a few' — rather than 'a certain number of' — that is the lot of *kama* and *mispar*, the former too can at a pinch be viewed as a pro-numeral along the lines of *mishehu* 'someone', *e sham* 'somewhere' etc., i.e. *kama* 'a few', rather than the quantifier *mispar* homonymous with the noun meaning 'number', can be taken as meaning syntactically, literally, 'a number of'.

More specifically, we recommend categorising *kama?*, and perhaps *kama*, as Quantifiers bearing the syntactic features [+NUMERAL] and [+PRO], i.e. as an intermediate sub-category. Our support is from three areas — semantic, syntactic, and general linguistic.

(i) Semantically, since numerals and quantifiers are so akin (possibly as much as the specific and non-specific sub-categories of N), it is reasonable to view the pro-forms *kama(?)* as representing both categories at once, in much the same way as the answer to the question (69) below could be the specific *angli exad* 'some Englishman' or the non-specific *angli* 'an Englishman':

(69)   *Im mi at mitkavenet le hitxaten?*

'To whom do you intend to get married?'

(ii) Syntactically, Hebrew treats the pro-forms just like numerals in the Multiplicative construction too (cf. p. 19). Thus (70) is normal, while the real quantifiers etc. in (71) invalidate it:

(70) a. *Hi mevugeret mimenu pi shtayim.*

'She's older than him fold two'

b. *Taer lexa pi kama hi mevugeret mimenu.*

   'Imagine fold how many she's older than him'
   ('Imagine how much older than him she is.')

c. *Ze pi kama yoter yakar mi ma she xashavti.*

   'It's fold a few more dear than what I thought'

(71) a. *?Ze pi harbe yoter yakar mi ma she cipiti.*

   'It's fold a lot more dear than what I expected'

b. **Micrayim pi yoter gdola meitanu me asher surya.*

   'Egypt is fold more bigger than us than Syria is'

c. **Ha plada pi meot xazaka me ha barzel.*

   'Steel is fold hundreds stronger than iron'

So on two counts at least, *kama(?)* 'how many,a few' sides with the numerals, or, more accurately, with both numerals and quantifiers — for the singularity of *ish* 'person' and the Multiplicative both constitute positive evidence of numeral-hood, not negative evidence against quantifier-hood. And since the *elef* '1000' construction (cf. (67)), the gender inflection, and the Ordinals mentioned above all constitute negative evidence against the numeral-hood of *kama(?)*, it is surely best to characterise *kama(?)* as indeed a [+NUMERAL] quantifier rather than as a [+QUANT] numeral.

(iii) A third support for this subcategorisation comes from English and German, where, as noted on p. 19, quantifiers such as *several, a few*, and *mehrere, wieviel, einige* — though not, perhaps, *many* or *viele* — act as numerals in the company of 100, 1000, etc.

To complete our account of the context for Super NS in *ish*, observe that, in requiring numerals or [+NUMERALS], we are of course excluding cases like (72), where *ish* is without modification:

(72) **Im ish muxanim laazor, az bevakasha.*

   'If person are willing to help, let them go ahead'

4.2. Amount Terms and Some More Phonological Interference

Repeatedly in this study, we have found semantic and even phonological factors in the syntactic component. Just recall the [DIGITAL] distinction or the plural suffix of the time unit. A fitting climax is provided by Super NS in its sensitivity to the phonological status of what is possibly a natural semantic class, the amount term.[53]

Other N to behave like *ish* in NS are *xayal* 'soldier', *rosh* 'head (of cattle)'; and most amount terms: *axuz* 'percent'; *grush, funt, mark, dolar* etc. (money units); *meter* and its compounds, *liter* and its compounds, *kilo, gram* and their compounds, *vat* 'watt' and its compounds, *ton*, *kesher* 'knot', and *karat* 'carat'. Of Numerals, *milyon* and *milyard* behave like this too (unlike *elef* '1000', which conforms to the first Number Switch).[54]

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[53]For a logico-semantic account of amount terms, see Parsons (1970).

[54]Ezrahi (1952) imagines that the singular forms *xamisha ish* 'five person', *shesh isha* 'six woman', *shnei milyon* 'two million' etc. are the hallmark of particularly meticulous speakers. The most recent treatment seems to be that of Ornan (1973,61): "Speakers are accustomed to use the singular form of many nouns denoting artificial units with any numeral. [...] The same goes for a word like *ish* 'person' and other frequent nouns." (our translation)

This is not intended as an exhaustive list. But we do wish thereby to exclude certain other, comparable nouns that are not involved in either Number Switch: *isha* 'woman', *xayelet* 'girl-soldier', *zug* 'couple', *mishpaxa* 'family', *xeder* 'room'; *maala* 'degree (heat)'; *pruta, agora, lira* (money units); *koax sus* 'horse power'. Thus (73) is ill-formed:

(73)   **Shilamti {sheva,esrim} lira.*

         'I paid {seven,twenty} lira'

These exclusions are due to an intersection of causes, as we now argue.

Firstly, among the money units, all units with a plural in *-ot* and they alone resist NS; *maala* too differs from singularised units in this respect. As for *koax sus* (literally 'power-of horse'), the construct nature of the pluralised piece *koax* thwarts NS anyway (cf. p. 6). Note that, although *maala, pruta* and *agora* are native words, the rule cannot be expressed in terms of native vs. foreign: while it is true that most amount terms are foreign phonologically, the same is true of *lira* itself[55] — and it, as was seen, does not suffer NS. Furthermore, the unit *axuz* 'percent', itself a native word, does suffer it.

To state the rule thus in terms of "the plural suffix that the word would have had," we opt to refer to Rule Features of particular N geared to the phonology, just as we did for time units on p. 7; for even were there not a pressing reason in the shape of the unit *ton* — to be discussed — it would nevertheless be in the interests of elegance to express the similarities of both NS rules in one schema rather than to have Super NS axe *-im* suffixes of amount terms within the framework of the phonological component.

We are unsure how to explain the behaviour of *ton*. Many singularise it duly, despite its ending in *-ot* in the plural. Two factors seem relevant: (a) the singular form is *ton*, i.e. it does not bear the typical feminine ending *-a*, unlike *maalá, prutá, agorá*. But recall that the time unit *shavúa* 'week', which, like *ton*, has the plural ending *-ot* but not the feminine ending *-a*, certainly does not singularise. (b) Unlike *shavua* 'week', *ton* is phonologically foreign — as with *lira*, which does not singularise, the plural suffix it takes does not support stress, thus *tónot*. So perhaps the combination of factors is responsible. The one thing that is clear is that speakers differ sharply on whether to singularise *ton* at all.

The other factor affecting all these items is semantic. As noted on p. 27, the first NS never involves the feminine counterpart of the N it affects. At the time, we might have put this down to the fact that such N have plurals in *-ot* anyway; but now we see that among the N to which Super NS does not apply is *isha* 'woman'. Its plural being in *-im* (*nashim*), we can reasonably appeal to the semantic fact that it is feminine and hence marked in relation to *ish* 'person'. The same is true for *xayelet* 'girl-soldier', concurrently with the first, syntactic factor.

As for the general exclusion of all other N, of which those listed above are representative, it is doubtless true[56] that they are not as typically numbered in a group as *ish, xayal, rosh* and amount terms. But we have one reservation: NS seems to apply irrespective of whether the group is actual or conceptual[57]; thus (74) succeeds although the 'persons' referred to never formed an ACTUAL group:

(74)   *Rak xamisha asar ish zaxu paamayim be pras nobel.*

         'Only fifteen person have won twice the Nobel Prize'

---

[55]For a discussion of stress in borrowings, see Bolozky (1972,132f.). In *lira* the stress is uncharacteristically not on the suffix.

[56]See Rosen (ibid.,123).

[57]Compare the distinction between real-world coreference and conceptual coreference in Postal (1967b): *My home used to be in Baltimore, but now it's in Los Angeles.*

It may turn out that the concept of a "group" in Modern Hebrew syntax is generally of this sort. For the suffix *-ayim* 'two', restricted to time units and numerals (e.g. *yomayim* 'two days')[58], which might have been expected to refer to two CONSECUTIVE units specifically, does in fact refer to any conceptual pair of days:

(75) *Mekablim yomayim xofesh, yom exad be yuni ve yom exad be mars.*

      'One gets day-two holiday, day one in June and day one in March'

In fact, the first NS, applying as it does only after 10, would seem to support a "group-theory" interpretation of Number Switch much more easily than Super NS, for one might have expected plural entities to look like a non-discrete group just when quantified by a vague term such as *harbe* 'a lot' or *mispar* 'a number of' and not when modified by, of all things, a precise number! And, as we have seen, it is precisely when modified by a quantifier that both NS are impossible.

Having described the N that invite Super NS, we turn to the broader context. As with the first NS, modifiers of the noun are unaffected by the rule, hence (76a) but not (b):

(76) a. *esrim ish mezuyanim*

          'twenty person armed'

      b. **esrim ish mezuyan*

          'twenty person armed'

Furthermore this rule too is well-nigh limited to the context $\frac{=}{N}[N]$. Thus the presence of an NP in constructive relation with the N concerned, and that of a definite article ahead of the latter, blocks singularisation, witness (77,78):

(77) a. **arbaim ish bitaxon*

          'forty person-of security (= security men)'

      b. *arbaim anshey bitaxon*

          'forty persons-of security'

(78) a. **xameshet ha dolar*   b. *xameshet ha dolarim*

          'five the dollar'   'five the dollars'

      c. *Ma taase im shloshet ha {*axuz,axuzim} she kibalta?*

          'What will you do with three the {*percent,percents} that you got?'

In this particular case, actually, there is an alternative to the mere non-operation of NS: many speakers are prepared to use the ABSOLUTE form of the numeral — *xamisha ha meter* 'five the metre'. One can scarcely say that it is the looser relation between numeral and noun that permits singularisation here, for the definite article *ha* is still present. Whatever the reason, though, it may be Colloquial Arabic that holds the key. For there too the choice of the absolute form of numerals makes the difference between the failure and success of Singularisation — but in very different circumstances: Tomiche (1964) has pointed out that Super NS is possible for money, weight, and measure units, and for certain foreign words, but only if, instead of the construct numeral required for Numeral + N constructions, the absolute numeral is used. Hence:

---

[58]See Glinert (1967a), and Grosu (1969).

(79) a.   *xamis kiloyāt*   b.   *xamse kilo*
          'five kilos'   'five kilo'

Now, as is evident from our account in fn. 9, Arabic NS is not obstructed by the internal make-up of the NP, so there is no reason to ascribe the need for the absolute numeral in (79b) to constraints on the Structural Index of the NS rule. When an insight is achieved into Arabic, it may well be of help for (78) above too.

4.3. Two Residual Teasers

In conclusion we mention two anomalies, involving the noun *dunam* 'hectare', and expressions of the type *meter meruba* 'metre square' and *meter meukav* 'metre cubic'.

We have claimed that N like *ish* 'person' singularise only after numerals and [+QUANT] Pro-numerals. Thus (80) is ungrammatical:

(80) a.   **Ashalem lexa be dolar.*   b.   **Ma aase im ha dolar ha ele?*
          'I'll pay you in dollar'   'What'll I do with the dollar the these?'

But *dunam* 'hectare' behaves perplexingly: (81a) is well-formed, but not (81b,c):

(81) a.   *Be dunam ata tictarex limdod.*

          'In dunam you'll have to measure'

     b.   **En lanu kol kax harbe dunam shel tapuxim kemo laxem.*

          'We haven't as many dunam of apples as you'

     c.   **Hexan shayaxim ha dunam ha ele?*

          'Where do the dunam the these belong'

It may turn out that *dunam* is a cover for two nouns, a count and a mass noun. All we can say for the present is that it occupies a place midway between *dolar* and *avokado*, which, as we observed on p. 3, has zero realisation for [+PLURAL] altogether.

Turning to *meter meruba* 'square metre', we are faced with the following:

(82) a.   **esrim meter merubaim*   b.   *esrim metrim merubaim*
          'twenty metre square'   'twenty metres square'

     c.   *Nisharu rak esrim meter meruba.*

          'There were left only twenty metre square'

(83) a.   *Heerixu et ha kvish be esrim kilometer nosafim.*

          'They've extended the road by twenty kilometre additional'

     b.   **Heerixu oto be esrim kilometer nosaf.*

          'They've extended it by twenty kilometre additional'

In the (a) examples, but not in the (b), we find the situation familiar to us from earlier sections — singularised N, plural adjective. And the fact is that, with *meruba* and *meukav*, the adjective has to concur with its head, hence (82).

We have but an inkling as to how this should be represented syntactically. Note first that

meruba, meukav in this context are semantically distinct from, e.g., *meruba* in the literal sense of square (*xeder meruba* 'a square room'). Now there seem to be syntactic reflexes of this that tie up simultaneously with the problematic (82). Consider:

(84) a.   *Yesh rak mexonit yeruka axat.*

       'There's only car green one ('one green car')'

   b.   *Yesh rak mexonit axat yeruka.*

       'There's only car one green'

   c.   *Kaniti rak meter meruba exad.*

       'I bought only metre square one ('one square metre')'

   d.   **Kaniti rak meter exad meruba.*

       'I bought only metre one square'

(85) a.   *Efo* $\begin{Bmatrix} meter\ ha\ bad \\ kilo\ ha\ tapuxim \end{Bmatrix}$ *she kaniti?*

       'Where's $\begin{Bmatrix} \text{metre-of the cloth} \\ \text{kilo-of the apples} \end{Bmatrix}$ that I bought?'

   b.   *Efo {ha meter bad, ha kilo tapuxim}?*

       'Where's {the metre cloth, the kilo apples}?'

   c.   *Avakesh meter meruba xarsina.*

       'I would like metre square tiling ('a square metre of tiling')'

   d.   **Avakesh meter xarsina meruba.*

       'I would like metre tiling square'

These examples all revolve around the positioning of the adjective *meruba* 'square'. (84a,b) show that (for different emphasis, we think) adjectives can stand within or beyond a post-nominal numeral; but (c,d) demonstrate that *meruba* in the relevant sense cannot be separated from *meter*. (85a,b) show that, in expressions of the type *meter bad*, the two N can have a constructive as well as (for many speakers) an appositional relationship — as was observed on p. 7, constructives involve attaching the article to the final element;[59] but (c,d) show the lack of the constructive option when *meruba* is present — the whole *meter meruba* cannot serve as construct in that it is not a simple N (witness **meter meruba ha xarsina* 'metre square the tiling'), and nor can *meruba* take the course that is ordinarily open to attributive adjectives when their head noun entertains a Constructive, viz. act as modifier of the whole constructive phrase, hence (85d). *Meruba* is clearly wedded to its head in some sense.

But lest one view *meter meruba* as a lexical compound of the sort noted on p. 16 f. (*ben adam* 'person', *afor yarok* 'grey-green'), observe that these compounds do not, in the singular, allow the insertion of the article *ha* — it must accrue to the beginning of the compound:

(86) a.   *ha dgalim ha kxulim levanim*

       'the flags the blue white'

---

[59]Pace Ornan (1973,59), who regards *meter bad* 'metre cloth' as exclusively appositional.

b.   *ha dgalim ha kxulim ha levanim*

'the flags the blue the white'

And by contrast, when we definitise *meter meruba*, *ha* must accrue to both components:

(87) a.   *ha meter meruba shel mircefet*

'the metre square of paving'

b.   *ha meter ha meruba shel mircefet*

'the metre the square of paving'

We can only conclude that *meruba* is another of those "halfway houses," between a compounded node and a lexical node in its own right, hence the application of Super NS to the whole of *meter meruba* in (82).

Meruba and *meukav* may prove to be structurally akin in their integration within nominal structure to another type of adjective already mentioned in connection with ordinals — the denominal associated with a "nominalised" NP.[60]   Thus (88a) finds no expression as (88b):

(88) a.   *Haya rak nisayon suri exad lixbosh et ha maaxaz.*

'There was only attempt Syrian one to take the stronghold'

b.   **Haya rak nisayon exad suri lixbosh oto.*

'There was only attempt one Syrian to take it'

Similarly, with respect to (85), if one means (89a) one cannot say (89b):

(89) a.   *ha hashmada ha surit shel ha mucavim*

'the destruction the Syrian of the positions'

b.   **hashmadatam ha surit*

'the destruction-of-them the Syrian'

But in the absence of a firm deep and surface analysis of such adjectives, we shall not complicate our formulation of Number Switch below for their sake.

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[60] Such "pseudo-adjectives" receive attention in Chomsky (1972).

4.4. The formulation of Number Switch and Super Number Switch

$$
X, \begin{bmatrix} (i) & \begin{bmatrix} Y, & (\alpha\,\text{PLURAL}) \end{bmatrix}_{\substack{\text{NUMERAL}\ p \\ \text{-DIGITAL}}} & , & \begin{bmatrix} \alpha\,\text{PLURAL} \\ \begin{Bmatrix} a. & +N,+\text{TIME UNIT},+\text{RFx} \\ b. & +\text{NUMERAL} \\ c. & +N \end{Bmatrix} \\ \overline{\overline{X}} \end{bmatrix} \\ (ii) & \begin{array}{c} Y \\ +\text{NUMERAL} \end{array} & & \begin{bmatrix} \alpha\,\text{PLURAL} \\ \begin{Bmatrix} a. & +N,+\text{AMOUNT},+\text{RFx} \\ b. & +\text{NUMERAL} \\ c. & +N \end{Bmatrix} \\ \overline{\overline{X}} \end{bmatrix} \end{bmatrix}\ Z
$$

1	2	3	4	5	$\Rightarrow$
1	2	3	$-\alpha$ PLURAL	5	
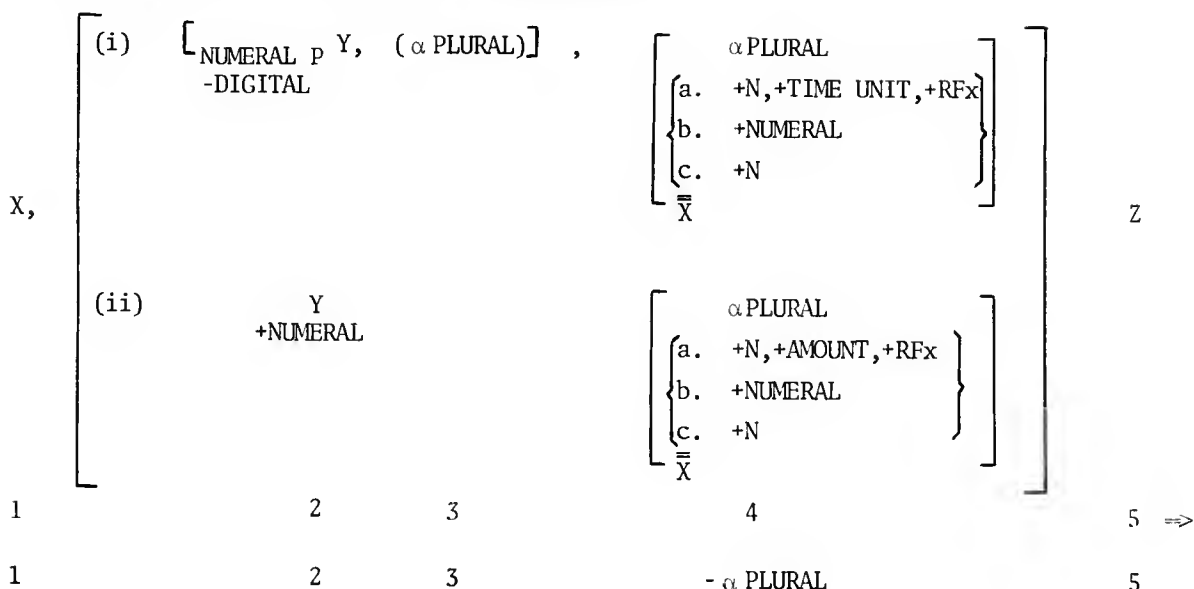
Conditions: For (i) a.,b. the rule is obligatory when 3 is not null and otherwise optional;
for c. the rule is optional.
For (ii) the rule is optional.

Remarks: RFx is the morphological rule feature geared to the creation of a suffix in *-im*. Nouns not specified as in a. of term 4 will bear a lexical feature geared to this rule.

This schema may be paraphrased thus — when the feature PLURAL adheres to a time unit subclass of noun or to numerals or to certain other nouns, and is immediately preceded by a non-digital numeral phrase ending in the same value for the feature PLURAL; or when PLURAL adheres to amount nouns or numerals or certain other nouns, and is immediately preceded by a Numeral item; then the value of the feature is reversed, provided the item to which it adheres is the sole content of the two-barred node dominating it.

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The Ayt Ndhir dialect which is described belongs to one of the major Berber languages, Tamazight, spoken in the Middle Atlas Mountains of central Morocco. The description is based in the main on research undertaken with native speakers of the Ayt Ndhir territory surrounding El Hajeb. -- While directed to the non-specialist, a number of points in the description proper will be of interest to the specialist as well: the presentation of noun and verb morphology points up a number of regularities which more often than not have been obscured in previous descriptions. Also, phonological rules are given which account for the major share of morphophonemic complexities. The reader will find in the appendices and 'optional' sections conjugation tables of typical verbs—including detailed observations on the placement of shwa in verbs—, a chart showing the main morphological patterns involved in verb derivation, a description of the phonological rules applying in complex sequences of morphemes of the verb group, the 'basic' vocabulary contained in several well-known lexicostatistic word lists, and a chart of the Tifinaγ alphabet used by the Tuareg.

AAD 2 - Ancient Egyptian: *MIDDLE EGYPTIAN*   by John Callender.   1975, 150 pp., \$10.

This grammar deals with the literary language used in Egypt from ca. 2000 to 1200 B.C. and considered in even later times to be the classical written form of Egyptian. The book is directed toward the general linguist as well as the Egyptologist; examples are glossed and written in transcription and there is an index of grammatical terms and Egyptian morphemes. A comprehensive set of paradigms of both verbal and non-verbal predicate types is included as an appendix, together with an appendix on negation and one on the historical origin of certain constructions. -- The grammar contains three main parts: phonology, morphology, and syntax, of which the last receives most emphasis. The section on phonology sketches the laws of sound change to the extent they can be discovered. The section on morphology stresses the paradigmatic character of verb tenses and their derivations. A distinction is made between truly paradigmatic tenses and tenses borrowed from Old Egyptian for quotations or special effect. Following Polotsky, the "emphatic forms" are treated as nominalizations under the rubric "manner nominalizations." Unlike previous grammars of Egyptian, this grammar discusses syntax according to transformational categories. The process of "clefting" interrelates emphatic forms, the "participial statement" and constructions with *pw*+ relatives. The process character of negation is emphasized, and the implications of so considering it are developed in a special appendix. A sample text is also included, accompanied by a vocabulary and a translation.

AAD 3 - Semitic: *DAMASCUS ARABIC*   by Arne Ambros.   1977, vii-123 pp., \$13.

Based on both previous works and the author's own observations, the grammar describes the Sedentary Eastern Arabic dialect spoken in Damascus. While strictly synchronic and written without presupposing knowledge of classical Arabic, it follows traditional arrangement and terminology as closely as possible without failing however to do justice to the individual traits of the dialect. Appendices deal with 1) the regular reflexes of Classical Arabic phonemes in Damascus Arabic, and rules governing the reduction of vowels, and 2) a discussion of morphological substitutions which cannot be interpreted as describing the historical development from Classical Arabic to Damascus Arabic.

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